



# AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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## AMERICAN RAILROAD JOURNAL.

NEW-YORK, MARCH 21, 1835.

We continue in this number the general remarks of Mr. E. F. JOHNSON, which accompanied his Report relative to the Ontario and Hudson Canal. They show a mind well informed, and deeply impressed with the importance of immediate action upon all the great works of internal improvements, in order to secure the trade of the great West.

We regret not being able to give the remainder—which we are prevented from doing, as the copy has, by accident, been lost.

We would ask for the communication of "GOVERNEUR MORRIS" an attentive perusal.

The New-York and Erie Railroad bill finds greater opposition in the Assembly than was anticipated. It was indeed believed by its friends that there was some degree of liberality, or sense of justice, amongst those representatives of the people who have been so much benefitted by the State works. It is idle, however, to look for liberality there—or, at least, amongst many of them.

The following extract of a letter from Albany shows that some of the opponents of the measure are handled without mittens.

"In the debate in the Assembly on the bill to 'aid and expedite the construction of a Railroad from Lake Erie to the City of New-York,' Mr. WILKINSON, from Syracuse, (Onondaga), spoke at great length, and with much vituperation. His arguments were principally repetitions of a late publication in the Syracuse 'Standard,' going to show that no internal improvements ought to be made in the State of New-York other than along the line of the Erie Canal, and consequently through the village of Syracuse.

"He arraigned the motives of the honorable and patriotic citizens of New-York, who have become subscribers for the stock in the contemplated railroad, and imputed to them the fraudulent design of speculating in the stock without any intention to construct the road.

"He was answered by Mr. BURKE, of Cattaraugus, in one of the most overwhelming replies that I have ever heard. Mr. B. kept the whole house in almost breathless attention for about two hours. Mr. W., if he possesses a particle of sensibility, must have felt (as did all others) that he was annihilated. The constituents of Mr. BURKE owe him a large debt of gratitude, for his able assertion and defence of their rights, on the floor of the Assembly. Well may the people of Cattaraugus be proud of their representative!"

PENNSYLVANIA CANALS.—The Harrisburg Chronicle of 12th inst. says: "the Canal is filled with water, and navigation has commenced."

The Philadelphia Inquirer of Tuesday says: "the Delaware and Raritan Canal opened for business yesterday morning. The Schuylkill Navigation will open to-morrow. The weather, for the last day or two, has been delightful. Vessels arrive and depart without the slightest interruption."

Thus it will be seen that the PENNSYLVANIA CANALS are now, and have been since about the 10th inst., in full operation; by which they are not only enabled to anticipate us, by at least six weeks, on our canals; but also by nearly half that time on our "noble Hudson"—and yet our liberal friends on the line of the canal, are determined that our State and City shall not derive the benefit of increased or uninterrupted communication with the West, unless the new works pass directly by their own doors.

We cannot reflect upon the subject without being reminded of the inhabitants of a new country, who erect their dwellings to please themselves, and then insist that the main road shall pass *their door*; be it in a direct or indirect course, it matters not. So with some of our friends on the line of the canal—after they have had MILLIONS of public money spent amongst them, and have taxed the salt, and calicoes, and teas, and sugars consumed by other parts of the State, to open a communication with the Lakes, passing their doors; and thereby doubling the value of their property—they now say to other parts of the State, asking aid to open a communication to market, "If your work will pay an interest, you need no aid—if not, the State should not enter into unprofitable speculations."

Is this, we ask, the spirit and course of reasoning which is to retain for the State of New-York her proud pre-eminence for enterprise and public spirit?

The passenger cars on the Columbia Railroad are propelled by locomotive engines. The trip from Philadelphia to Columbia, 82 miles, is made in about six hours; and it is believed that it will soon be made in four hours.

STEAM NAVIGATION TO INDIA.—We find in the last number of the Edinburgh Quarterly Review, which has just come to hand, a long article on this subject, with copious extracts from the Report of a Select Committee of the House of Commons, to whom it was referred—affording much interesting information. We shall give it a place in the Journal at an early day.

Mr. Vignoles, Civil Engineer, has invented, as we learn from the London Mechanics' Magazine, an apparatus called spring connectors, for connecting trains of cars, by which the unpleasant concussions at stopping and starting the engine are diminished.

To the Editor of the Railroad Journal:

Have you, sir, seen the new LOCOMOTIVE ROTARY STEAM ENGINE of Wm. Avery, on the Newark Railroad, in operation? If you have not, I hope you will take an early opportunity of examining it, as I consider it one of the most ingenious yet simple machines I ever saw, and its operation is highly satisfactory to those who have seen its performance. Yours, very respectfully,  
A MECHANIC.

In reply to the above question, we can say that we have not yet witnessed the operation of this engine on the railroad, although we saw one of them, many months since, in operation, in the machine shop of Elam Lynds, Esq. and William Avery, at Syracuse, Onondaga county, N. Y., which performed to admiration, carrying at the same time all the machinery of an extensive machine shop, blowing the bellows of a cupola furnace, and performing other work, with only an 18 inch arm, or 3 foot engine, and making the almost incredible number of over 3000 revolutions, as we were informed, in a minute. Several engines of the same description are, as we have been also informed, now in operation, and in all cases, so far as we know, to the entire satisfaction of those who use them.

We have been promised an early description and drawing of the engine for the Journal, which, when received, will be given to our readers without delay, when we hope the ingenious and enterprising inventor, and gentleman with whom he is associated, Mr. Lynds, will derive ample remuneration.

*Report of E. F. Johnson, Esq., in relation to a Ship and Steamboat Canal from Utica to Oswego.*

(Continued from page 147.)

#### General Remarks

I have thus far confined myself to an examination of the practicability and probable expense of that portion of the proposed steamboat canal, lying between Utica and Oswego.

I have thought it not improper, in continuation of the subject, to advert to some of the more prominent of the relations which a work of that magnitude, connecting the great lakes with the tide waters of the Atlantic, will bear to the internal commerce of the country.

That there is no other route presenting the same or equal facilities for an enlarged navigation, by which the trade of the west may be conveyed in the most direct manner to the sea-board, will, I believe, be readily conceded by every one acquainted with the physical geography of the country. The only important question, therefore, which remains to be decided, is, whether the time has arrived for forming such a communication. The evidence of this must be deduced principally from an examination of the existing and prospective increase in trade of that region of country, the surplus produce of which will naturally

find its way to market along the great thoroughfares from the Lakes to the Hudson.

The following table exhibits the past, with the prospective increase in population of the States and Territories mentioned, deduced from the census taken at the periods stated from 1800 to 1830.

States and Territories.	Area in square miles.	POPULATION.					
		1800.	1810.	1820.	1830.	1835.	1850.
New-York. . . . .	46,000	586,050	939,049	1,372,812	1,918,532	2,300,000	3,600,000
Ohio. . . . .	40,000	45,365	230,760	581,484	935,884	1,200,000	2,000,000
Indiana. . . . .	37,000	5,641	24,520	147,178	348,081	500,000	1,200,000
Illinois. . . . .	58,000	215	12,282	53,211	157,445	250,000	600,000
Missouri. . . . .	61,000		19,833	66,566	140,455	200,000	400,000
Michigan Territory, (proper). . . . .	96,000			8,896	26,529	50,000	350,000
Wisconsin, (fertile portion). . . . .	95,000						200,000
Missouri T. . . . .	227,000						150,000
						4,540,000	8,500,000

If the estimated increase, as exhibited in the table, is not overrated, the population of all the States and Territories mentioned will be doubled in about fifteen years.

The population of a country has not unfrequently been assumed as a proper measure of the extent of its trade, or of its ability to furnish a surplus produce to exchange for the commodities of other regions.

This principle is correct when applied to countries having equal natural resources, possessing equal facilities of soil and climate, and in which the total amount of productive power is fully and profitably employed.

That much depends upon the full and profitable employment of the productive power, is strikingly exemplified in an estimate recently made of the comparative amount of animate and inanimate force applied respectively in Great Britain and France to agriculture, commerce, and the arts. From this comparison it appears that France, with a population nearly dou-

ble that of Great Britain, and a climate and soil in no respect inferior, has a productive power, in agriculture, but little greater, and in commerce and the arts, two thirds less than Great Britain. Great as this difference is, it would undoubtedly be exceeded if the comparison were made between Great Britain and some of the other civilized nations of Europe.

With respect to the extent of country, the trade of which is to be conducted upon the New-York canals, but a small portion of it has reached that point where it can boast of more than its agricultural power, and even this is in no respect fully developed.

The surplus productions of a country, in the early stage of its settlement, bear a less proportion to the amount of its population than when more advanced. The reason is obvious. The first settlers are mainly occupied in procuring for themselves and families the means of subsistence; in clearing ground for cultivation; in erecting suitable dwellings, and in opening the necessary roads.

They have, consequently, but little remaining to offer in exchange for the productions of other regions. It is not, moreover, until a country has been some time settled, that the extent of its mineral resources, and the fitness of its soil and climate for the perfection of various productions, can be fully ascertained.

It is only, likewise, in a country somewhat advanced, where the business and occupations of individuals are established on a permanent basis, that the greatest benefit are derived from an economical division of labor, and its surplus or exchangeable wealth increased to its greatest amount. The accession, likewise, to its wealth, from those mutual exchanges, through the aid of which each separate territory is enabled to produce those commodities, and those alone, in which it is peculiarly fitted to excel, can never be fully realized until the avenues of exchange are opened, and the wants and capabilities of each fully understood.

The influence of these several causes upon the amount of trade, is particularly exemplified in the progressive increase of the business upon the New-York canals, since the period of their completion.

In the very able report of the Canal Commissioners, made to the Legislature of this State in 1825, there is an estimate of the probable increase in revenue upon the Erie Canal for the succeeding ten years, based upon, and corresponding with, the assumed increase in population for the same period. This estimate gives for the population, whose surplus produce is conveyed upon the canal in 1834, \$1,800,000, and for the whole revenue for the same year, \$900,000.

How much the assumed differs from the actual increase in population, it is impossible to say; but enough may be inferred from the table above given, to lead to the conclusion that the actual increase has been less than was anticipated, while the receipts from tolls, instead of \$900,000, have been increased to 12 or \$1,300,000, the much larger portion of which has been drawn from the interior of New-York, comprising but a moiety of the population intended to be included in the estimate.\* This, too, notwithstanding there have been two successive reductions in the rate of toll, amounting to nearly 40 per cent.; the

\* The tolls collected at Buffalo, in 1832, amounted to little more than one twentieth of the whole revenue of the canals, and in 1833, to one seventeenth.



country having, in the mean time, suffered much embarrassment in its commercial relations, from the visitations of Providence, and other causes. All which goes conclusively to support the principle I have endeavored to illustrate, viz.: that in a growing country advance in wealth must necessarily exceed that in population.

From the table above given it appears that the population of the country, west, may be safely calculated to double its numbers during the next fifteen years. This country is now, to a considerable extent, in the condition I have already described, but partially advanced from a state of nature: fertile in soil, and fruitful in its latent resources, waiting only the hand of labor and of art for their speedy and easy development.

In this region, a lapse of time of fifteen years, when considered in connection with the characteristic enterprise of its people, and the fact of their having but just entered upon the great business of trade, must exhibit changes and improvements which we can now scarcely appreciate, and the increase in exchangeable wealth, instead of being doubled in the ratio of the population, will more probably be trebled.

If we look forward but the half of a century, we shall perceive that the population, at the same rate of increase, will amount to fifty millions, and will then only equal in density that of Massachusetts and Connecticut at the present time. Whether this ratio of increase will continue, cannot be affirmed: but this we do know, that so long as the purity and simplicity of our government shall be preserved, and the rights of conscience and privilege to pursue legitimate private interest are held sacred; in fine, so long as our country shall continue to maintain the pre-eminent position which it now occupies in the great scale of nations, so long will it continue to increase in population and wealth, and in no part of it will this increase be more rapid, or in the end attain a higher maximum, than in the rich valleys of the St. Lawrence and Upper Mississippi.

To those acquainted with the navigation of the Erie Canal, it will be evident that any material increase in its business could not, in its present state, be accommodated.

The plan of doubling the locks will add to its capacity, but even this improvement will not, it is feared, ten years hence, prove adequate to the demands of trade; and to realize the utmost advantages from it, should be attended with an enlargement of its channel, otherwise much will be lost which might be saved in the force of traction; and what is of still greater moment, the flow of the water upon the longer levels may be found, in extreme cases, insufficient without such enlargement, for the purpose of lockage.

Could the business upon the canal be equalized, the boats freighted uniformly to their maximum tonnage, and their periods of arrival and departure likewise rendered uniform and regular for the whole navigable season, the capacity of the canal in both its present and improved state, would be more than doubled; but such an arrangement can scarcely be effected consistent with the convenience and interest of the community.

The fluctuations of trade, which are ever ceaseless and often great, occasioned by the alternations of seed time and harvest, and the changing character of the seasons, combined with other causes of a political nature, will not admit of subjection to a Procrustean system, without a sa-

crifice on the part of community, which it will be their aim to avoid, by seeking other channels for the transmission of their produce.

The evils arising from restrictions upon commerce, whether natural or artificial, and however transient, are always attended with serious consequences. The country has but recently witnessed the injurious effects of a similar interference in the accustomed flow of its currency; and a like restriction upon trade, in the transfer of the productions of the soil and the various necessities of life, would be attended with consequences still more prejudicial.

The necessity of an improved communication is becoming daily more apparent, not only from the growing commerce of the country, but from the efforts which are making in other sections, to divert the trade of the west into other channels.

On the south, the States of Pennsylvania, Maryland, and Virginia, are each strenuously engaged in overcoming the barrier of the Alleghanies, while on the north, a channel for large vessels has been opened by our Canadian neighbors from Lake Erie to Lake Ontario, and the only remaining obstructions to a descending navigation along the St. Lawrence, to tide water in that direction, are now being overcome by a canal constructed on the same magnificent scale with the one around the Falls of the Ohio.

The competition by which the State of New-York is thus threatened, and which she will soon be compelled to encounter, is truly formidable, and should be met by an increased effort and determination, not only to secure, but to add to the ascendancy which she already possesses over the commerce of the country.

That the proposed steamboat canal from the Hudson to Lake Ontario, is eminently calculated to aid in promoting this object, does not, I conceive, admit of a doubt. This it will accomplish, by its effect, in expediting and in cheapening transportation.

From Lake Erie to the Hudson River, the distance by the Ontario route is 378 miles, and exceeds that by the Erie Canal only 15 miles. Of this distance, 146 miles is along the Niagara River and through Lake Ontario; about 62 miles more of improved navigation along the Oswego and Oneida Rivers and Oneida Lake, leaving only 140 miles from the latter point to the Hudson at Albany.

The increase in lockage by the Ontario route is 240 feet, which being overcome by 30 locks, will occasion a delay of four hours; making the liberal allowance of eight minutes for the passage of a single lock. To compensate for this delay, we have the greater celerity of motion on the Ontario route, which may be rated as follows:

Buffalo to Lewiston,	30 miles,	3 1-3 miles per hour,	9 hours.
Lewiston to Oswego,	146 "	" "	16 "
Oswego to Albany,	202 "	5 1-2 "	37 "

Total, 378 miles in 62 hours.

By the Erie Canal the distance is 363 miles, which, at 2½ miles per hour, the average speed for freight boats, gives 145 hours; making a difference in favor of the Ontario route of 83 hours, or reducing the time more than one half.

This is, probably, a greater difference than would be proper to assume, if the comparison were made between the canal and vessels propelled solely by wind upon the lake. But if the average is taken of sail vessels and steamboats upon the lake, with steam upon the canal, I believe the truth will not be exceeded by placing the ratio of time at one half, or at most two-thirds,

which the Ontario and Hudson will bear to the Erie route. This saving in time, although produced mainly by the superiority of lake navigation, combined with the use of steam, is due in part to the fact that the continued interruption to their progress, to which boats on the canal are subject in passing each other, is in a great measure avoided, and likewise to the diminished resistance to which boats are subject, when moving in a larger channel: an advantage, which, if it does not contribute to the speed, will be gained in power.

My estimate of the probable relative cost of transportation, is deduced, in part, from a printed tariff of rates established by companies engaged in that business, for the year 1834, and since the reduction of the tolls.

From this tariff, the charge per mile, per 1,000 lbs., for heavy goods, conveyed as described, is as follows:

	Miles.	
New York to Albany,	7.3	Steam on the Hudson River.
Albany to Buffalo,	22.6	By the Erie Canal.
Buffalo to Detroit,	11.3	By vessels.
Buffalo to Chicago,	18.7	By steamboats. } to 15th Oct.
Oswego to Niagara,	6.5	By schooners to 20th Sept.
Oswego to Toronto,	14.5	To 15th October.
	13.2	

The preceding exhibits a great difference in favor of navigation by wind and steam upon the larger waters, when compared with a canal.

On the Hudson River the cost is only one third of that upon the canal for the same distance.

On Lake Erie, from Buffalo to Detroit, it is one half by sail vessels and three fourths by steamboats. On Lake Ontario it is two thirds, and from Buffalo to Chicago but little more than one fourth.

The reason for a higher charge upon Lake Ontario than Lake Erie, is undoubtedly in a great measure owing to the less amount of business upon the former, a difference which will not exist when Lake Ontario shall become a more general medium of transportation.

From Lake Erie to the Hudson River, on the Ontario route, one third of the whole distance is lake navigation. It will not, I apprehend, be unreasonable to infer from the facts presented above, that the cost of transportation will, in consequence, be materially reduced.

A very important saving may likewise be anticipated from the greater celerity of motion by which the same amount of fixed capital invested in vessels, &c., will yield a greater annual profit. This is inferred from the fact that age, and not severity of usage, is the principal cause of the decay of vessels.

We may calculate likewise upon a farther reduction, by the time and expense saved in the transfer of freight. On the proposed route through Lake Ontario, with an enlarged steam navigation to the Hudson, there will be no breaking of bulk from the shores of Lake Michigan or Lake Erie to New-York. That this is not an item of inconsiderable importance, will appear, when we reflect that in the process of lading and unlading, much time is consumed, vessels are lying idle, merchandize liable to be injured, and warehouse expenses incurred. It is in consequence of this, that the transportation per 1000 lbs. per mile, from Buffalo to Chicago, is but half of that from the same place to Detroit; the distance in the former case being quadruple that in the latter. It is likewise from this principle, that the rate of transportation at which the foreign commerce of the country is conducted upon the high seas, is still less than the preceding, although the



charges for insurance are, in general, much the greater in the latter case. In accounting for this difference in expense, it should in part be considered that large vessels are navigated with a less number of men, and, in general, cost less in proportion to their tonnage, than those of smaller dimensions.

An important saving in expense, is likewise anticipated by the use of steam as an impelling power. The experiments which have hitherto been made for navigating the smaller canals by steam, have invariably failed. It would seem, therefore, that if this great and growing power in the arts, can be applied at all, to artificial navigation, it must be on canals of a large size. That it can be so applied, on the portion of the proposed canal from Utica to Oswego, I do not entertain a doubt.

The most economical mode of applying this power, is undoubtedly that of towing, by which one or more vessels are propelled by a single steamer, in the manner at present practised in the navigation of the Hudson. Where there is much lockage to be overcome, this method, from the delay attending the passage of the locks by a train of boats, cannot so conveniently be adopted.

[For the American Railroad Journal.]

*New-York.—Her Internal Improvements, present and prospective.*

The State of New-York, in her system of internal improvements, is approaching a new era. Her main avenue of communication with the West, the Erie Canal, if not already, will soon be inadequate to the demands of trade. This canal has been in successful operation scarcely ten years, and in that time the business upon it has almost quadrupled in amount—and, what is most remarkable, has been principally derived from within the limits of the State. With the experience of the past to guide us, we can form some idea of the future. For the next ten years, it will not be improper, we imagine, to anticipate a similar and even greater increase; more especially when it is considered that, in addition to the trade within the limits of the State, we may anticipate a very great accession from the States and Territories West, which are now just beginning to furnish a surplus produce, to be exchanged for the manufactures and productions of the East.

The great problem now to be solved is this: What further means must be devised for the cheap transmission and full accommodation of this great and growing trade.

Since the construction of the Erie Canal, a rival method of intercommunication has been introduced, which bids fair to take the precedence of canals in most situations. We allude now to railroads. Their peculiar advantages are obvious—greater economy in construction—very great saving in power under high velocities—available at all seasons—adapted alike to passengers and freight, and possessing superior advantages in the conveyance of the mails, and the various purposes for which a cheap and rapid communication is required.

Under this view of the subject, it becomes a matter of deep interest, requiring careful and profound investigation to deter-

mine which method should be allowed the preference.

Already two lines of communication are projected, to extend from the Hudson to Lake Erie: one through the central, and the other through the southern part of the State. A navigation on an enlarged scale has likewise been projected, suited to vessels navigating the larger waters, and designed to unite Lakes Erie and Ontario, and to connect the latter with the Hudson.

A plan has likewise been proposed by the Canal Commissioners for enlarging the Erie Canal, retaining the present size of the locks, with the exception of a trifling addition to their length, and doubling their number. This improvement, if the canal is made 7½ feet deep and 70 feet surface, will cost the State 6,000,000 dollars. The same amount of money will form a communication of much larger dimensions, by the way of Lake Ontario. This is owing to the fact, that on the latter route, one half the total distance, nearly, is natural navigation.

It is from this circumstance, likewise, that we anticipate with certainty that the cost of transportation will be less, the present rates on the Hudson and the Lakes being from one third to two thirds less than on the canal: such is the superiority of natural water, aided by steam, over artificial. The delay and cost of transshipment will be saved. These points of superiority of the Ontario route are of the utmost importance in securing the "far West" trade; a large portion of which is in danger, from foreign and domestic rivalry, of being diverted to the more northern and southern markets.

The importance of the Ontario route is likewise greatly enhanced from the anticipated connection between Lakes Hudson and Ontario, which is about being accomplished by the Canadians, and which will shorten the navigable distance from the Hudson to Lake Michigan, and the whole country north and west of Detroit, nearly 250 miles.\* Considering the vast amount of trade which, fifty years hence, will be required to pass to and from the seaboard and St. Lawrence and Mississippi valleys, it is evident that a navigation on the largest scale possible should be formed.

On no other route can a canal of as large dimensions be constructed, as between the Hudson and Lake Ontario; and on no other can the transportation be conducted at so low a rate.

We have stated our convictions that railroads will supersede canals in most situations; but, whether railroads are successful or not, it appears to us that a navigation on an enlarged scale will be required between the Hudson and the great Lakes.

The extent of natural bears so large a proportion to artificial water, as to require that the chain of navigation be perfected and unbroken throughout the whole distance inland from the Hudson to the Mississippi.

The Erie Canal has thus far drawn most of its business from within the limits of the State. As the general course of trade is to and from the interior and the seaboard, that portion of the canal nearest the latter point has been the most crowded; the business upon it from Lake Erie is increasing towards the Hudson almost in an unlimited ratio; so that, although it has, as a whole, been supplied with business almost

to the extent of its capacity, the western portion of it is susceptible of a still farther increase, and will not need relief for some time to come.

Under this general view of the subject, it does appear to us that the great interests of the State and the country West will be best subserved by directing the attention and the energies of the State to the opening of a navigation on the largest scale from the Hudson to Lake Ontario, and from the latter to Lake Erie.

When this is completed, a continuous line of railroad will probably be in operation from Albany to Buffalo, and we shall know by actual experiment whether any enlargement of the western part of the Erie Canal will be needed,—which we will venture to assert will not be the case.

By pursuing this course, we shall make sure of the very best navigable communication between the Hudson and the fertile regions of the West; and we shall avoid likewise the great hazard of sacrificing the large amount of money required for the enlargement of the western portion of the Erie Canal, which would be entirely lost in case the expectations as it regards railroads are realized.

The State has thus far acted, in forming its plans for future improvement, without sufficient reflection and investigation.

The project of doubling the locks was hastily planned; but, without enlarging the canal, it has been found an useless measure, and suspended. The present project of enlarging the channel of the canal, in connection with the doubling of the locks, must likewise be abandoned. First, because of the great disparity between the breadth of the canal and that of the locks and boats; and secondly, because it fails to remedy an important defect in the present size of the locks, from their not being large enough for steamboats and vessels navigating the larger waters. It must be abandoned, likewise, because, under the present state of things, no plan for a general system of intercommunication can be judiciously formed, without some regard being paid to the effects and advantages of railroads, and because the Ontario route, the one which will be found the cheaper and preferable of the two, is not embraced or considered in the proposed improvement.

Surely this hasty and inconsiderate mode of legislation does not comport with the dignity of a great and growing State like New-York.

The experience of the few past years, combined with that enlightened forecast which should pervade all the more important acts of the State, should be brought to bear upon this most momentous question.

We have arrived at that point where either a complete revision, or the carving out of an entire new system of intercommunication, is imperiously demanded; and the subject should be approached and examined in the most serious and thorough manner, and with a spirit of liberality and forecast worthy of the State, and of the great objects to be attained.

GOVERNEUR MORRIS.

[From the New-York American.]

The cause of Internal Improvement in this State seems to be retarded in some most inauspicious way; or, if advanced at all, only in the line where already so much has been done—that in and about the Erie Canal. Now, it is the farthest thing in the world from our wish, to object to any reasonable proposition for rendering this

\* See Report of E. F. Johnson, Esq., Doc. No. 195, Assembly.



canal still more useful, and tributary to the advantage of the State; for it has proved itself entitled to every additional aid that can be beneficially applied, and we hold up both hands for granting it. But when this feeling of entire confidence and liberality is both felt and expressed towards that great work, is it not fair to anticipate, that something of a corresponding feeling should be evinced by those on the line of the canal, towards other great works under contemplation, or in progress? We refer not now to any one particular project, but to several, which are before the Legislature, and all of which, more or less, seem to meet with an unaccountable—though frequently covert, and therefore more mischievous—opposition, from those who claim to be the friends of the Erie Canal. This is not either politic or just. There is room, and scope, and employment, enough for all; and when a reasonable probability is exhibited, by the investment of capital on the part of private individuals, that any contemplated work may prove beneficial, this State—which has so liberally ventured heretofore, and so largely profited by its liberality—should not hold back.

Our wealth, enterprise, industry, fertility of soil, and the possession of a seaport which, like the city of New York, commands the commerce of the world, all combine to render it obligatory on those who rule the State, to foresee, and provide in advance, for the new outlets and intercommunications required by our rapid growth. Let not a niggard calculation—which in the end is any thing rather than economy—and still less, a spirit of party, which fears to hazard out of its own hands, the application of the public wealth to the cause of general improvement—let no such calculation retard our onward march. Arrest it they cannot, for it will still be onward. But it may be impeded, troubled, and eventually less assured, than, with the generous aid of the funds of the State, it would otherwise be.

Again, therefore, we press it upon the Legislature, to look with a large and liberal view at the cause of internal improvement, and wherever reasonable probability exists, that the good to be accomplished exceeds the hazard of loss, to go forward boldly.

New-York must look to it, or her communication with the Great West—through her own roads and canals—will fall off. The current of trade now sets in our favor, and if we provide, as we should, new channels as they are needed, it cannot be diverted. If not, it will be.

The Baltimore American—in announcing the final passage of the *Internal Improvement Bill* by the State of Maryland—a bill which gives millions to the *Baltimore & Ohio Railroad*, and to the *Chesapeake & Ohio Canal*—thus breaks forth in rejoicing:

Thus has passed the bill which makes the name of "Marylander" one which may be proudly boasted of. Thus has the State, with a single stride, assumed the highest rank among her sisters; and as, in olden times, the first Magistrate of Venice performed the nuptial ceremony with the sea, which was the source of the wealth of her Republic, so has Maryland now wedded herself to that mighty West, which teems with the elements of her future and ever increasing prosperity."

A daily line of Steam Packets between Pittsburgh and Louisville, went into operation, as we learn from the *Pittsburg Gazette*, on Monday last.

OPENING OF THE CANALS.—We are authorized to say that directions will be given for placing all the canals of the State in a condition to be navigable on the 15th of April next.—[Albany Argus.]

TUBULAR BOILERS.—The ferry boat Essex, built for the Cortland-street and Jersey City Ferry, is furnished with two of Dr. Nott's tubular boilers—constructed for burning anthracite coal.

These boilers, a part of which consists of a large number of small malleable iron tubes, of about 1½ inch diameter, and three feet in length, placed perpendicularly, are seven feet in length, and three and a half feet in width, by seven feet high. The supply of water, entering at one end, near the bottom, is forced up through the small tubes, between which the heat passes towards the chimney.

The furnace, or place for the fire, is at the side of, extending its whole length, and on a level with, the tubular part of the boiler, about two and a half feet in width by four in height, the flame, or heat, passing in a horizontal direction, between the tubes of the boiler, and thence into the chimney, or smoke-pipe, which is placed on the side of the boiler, opposite to the fire.

The fuel used on Monday last, when a short excursion was made up the Hudson, was entirely of *Lackawana coal*, used mostly in large lumps, resting on a series of moveable grates, similar to those used in Dr. Nott's stoves. When the boat left the foot of Cortland-street, many of the lumps of coal were but partially ignited: the wind being aft, and the chimneys very low, calculated only for crossing the river, as a *Ferry Boat*, the full effect of the fire was not felt until the boat was put about, to return to the city, although she made *twenty-three revolutions* to the minute. It was perceived, however, on going against the wind, that the fire had become a perfect mass of glowing heat—at which one could not look, on opening the furnace door, without much the same sensation as when looking at the brightest meridian sun. The interior of the furnace, which is lined with fire-brick, is about six feet in length, by 2½ in width, and four in height. It is difficult for any one who did not witness the trial, to be convinced of its entire success. We have heard much said of the beauty of anthracite coal fires, especially of the Schuylkill, or *Peach Orchard* coal; and we have seen specimens which were all that could be desired; yet we have never seen any thing equal to that made of *Lackawana coal*, on board of the *Ferry Boat Essex*.

There were some gentlemen on board, several experienced machinists; and it was conceded by all, that the experiment was eminently successful—and that it is no longer a question as to the entire feasibility of the use of *Lackawana coal* for steam navigation.

Great credit is due to Dr. Nott for the perseverance with which he has pursued so important an object, and the success with which his efforts have been attended. The public are much indebted to him also for

the construction of a boiler which is safe, almost beyond possibility of accident—as if one of the tubes should burst, no danger could occur, as it is inclosed in an iron case, and the water would rather serve to extinguish the fire.

In case of accident, the fire may be wholly turned from the tubes, or boiler, and the cold air made to pass through them, so as to cool them more rapidly.

The engine and machinery were constructed at the Novelty Works in this city, by Mr. T. B. Stillman, and do him much credit. We are promised a drawing and more full description, which we hope to give in a subsequent number.

We have received the following letter from a friend at Albany; and by way of eliciting the information he desires, which we have not by us, we publish his letter entire; and request gentlemen possessing it to furnish us with the statements desired.

To the Editor of the Railroad Journal:

Dear Sir,—I take the liberty of making the inquiry whether you have in your possession, or at command, the reports of any railway in England for their last year's transportation and dividends; what I wish access to is official statements. As also the same information in relation to any of the railroads in this country; either of their actual cost completed, or their expense-account the last or preceding year.

I shall examine your Journal, but there appears to be a difficulty in getting a statement of the actual cost of works, and the account of a year's business from their books, so that a comparison may be made.

I should be pleased to obtain information as to the cost of the Camden and Amboy railroad, as also the Paterson, the Columbia, the Baltimore and Ohio, or either of them.

I inclose you a year's subscription, \$3, for the Journal.

If you can give me, or refer me to, any information, as stated above, I shall esteem it a particular favor. Sincerely yours,

The whole stock of the Wilmington and Susquehanna railroad, — \$400,000, — was promptly subscribed last week. The portion of stock allotted to Wilmington was taken in half an hour, and the Philadelphia Inquirer states that when the hour arrived for the opening of the books in the latter city, the persons who were in waiting to make subscriptions were informed that all the stock had been already taken. It sold, a few hours after, at four dollars advance per share.

The Railroad in question is designed to connect Wilmington with Simper's Point, at the head of the North East river (a branch of the Susquehanna) — five miles from Havre-de-grace. The length of the road will be twenty-five and a half miles.—[Baltimore American.]

LIVERPOOL AND MANCHESTER RAILWAY.—The annual general meeting of this Company was held on the 22d January, Charles Lawrence, Esq., in the chair. The report of the proceedings of the last half year, ending December 31, 1834, was read by the Secretary, Mr. Henry Booth, which gave general satisfaction. A dividend of 4l. 10s. per share was declared, payable on the 3d of next month.



[From the Journal of the Franklin Institute.]  
*Report to the Board of Directors of Bridges, Public Roads, and Mines, upon the Use of Heated Air in the Iron Works of Scotland and England.* By M. DUPRE-NOY, Engineer of Mines. Paris, 1834.

Some experiments by Mr. Neilson, Director of the Glasgow Cast Works, led him to think that advantage would be gained by previously heating the air to supply the smelting furnace. He communicated his ideas to Mr. Mackintosh, long known for his inventive genius, and they united in undertaking at the Clyde Iron Works, in concert with Mr. Wilson, one of the proprietors of the establishment, a series of experiments to determine this important question.

In the first experiment, the air from the blowing machine was passed through a rectangular trunk of sheet iron, ten feet long, four feet high, and three feet wide, where it was heated previous to its entrance into the furnace.

Notwithstanding the imperfection of this method, by which the temperature of the air could not be raised above 200° Fahr., it was evident from the experiment that the plan of Mr. Neilson was destined to produce a revolution in the manufacture of iron.

This first apparatus was soon destroyed by the action of the heat, and its renewal being very costly, they substituted a cast iron pipe, having in the middle an enlargement like the bulb of a thermometer.

This second apparatus produced beneficial effects; it lasted much longer, and the temperature of the air was raised by it to 280° Fahr. This increase, though small, produced a visible economy in fuel. Messrs. Neilson, Mackintosh, and Wilson, then understood the advantages which would result from raising the temperature many hundred degrees. They abandoned this heating tube, and constructed a new apparatus, presenting a great number of tubes, heated in many points of their length. By this means, the temperature of the air was raised to 612° Fahr., a temperature above that of melted lead.

Though this temperature was much below that required for smelting iron, (estimated at about 1500°) it produced a considerable saving in the consumption of fuel. Another advantage was obtained of great importance—that of being enabled to substitute crude coal for coke, without injury to the walling of the furnace. The quality of the iron was, on the contrary, improved, and the furnace, which produced but little more than half its quantity of No. 1 and half of No. 2, when fed with coke, gave a proportion much greater of No. 1 iron, after the substitution of crude coal. Besides, the consumption of fuel was considerably diminished. This last circumstance was owing, probably, to the fact, that the temperature of the furnace becoming higher, it was not necessary to add so great a quantity of flux to insure the vitrification of the gangue which accompanied the mineral. It is probably owing to this

elevation of temperature that coal may be substituted for coke.

The better to judge of the progressive increase of economy obtained at the Clyde Works, in the experiments to be noticed, we give for each of them the different consumptions of coal and flux.

In 1829. The combustion being maintained by cold air—

Coal.	1. For fusion, three tons coke, corresponding to	Tons. cwt. qrs.
	2. For the blast engine . . . . .	6 13 0 1 0 0
		7 13 0
Flux . . . . .		10 2

In 1831. The furnace being in blast with air heated to 450° Fahr., they still burnt coke for the fusion of the metal—

Coal.	1. For fusion, 1 ton 18 cwt., corresponding to	Tons. cwt. qrs.
	2. For the heating apparatus . . . . .	4 6 0 0 5 0
	3. For the blast engine . . . . .	0 7 0
		4 18 0
Flux . . . . .		9 0

In 1833, July. The temperature of the air was raised to 612° Fahr., and crude coal used for fusion—

Coal.	1. For fusion . . . . .	Tons. cwt. qrs.
	2. For the heating apparatus . . . . .	2 0 0 0 8 0
	3. For the blast engine . . . . .	0 10 0
		2 18 0
Flux . . . . .		7 0

At this last epoch, the employment of heated air had augmented the yield of the furnace more than one-third, and consequently had effected a great saving in labor. In fine, the quantity of air required to maintain combustion in the furnace was also found to be sensibly diminished. The blast engine of seventy horse power, which was sufficient in 1829 for only three furnaces, was found of ample power for the blast of four.

By comparing the results which will be indicated, it will be perceived that the economy in combustion is in proportion to the increase of temperature. As to the absolute saving, it varies in each furnace according to the nature of the coal, and the care used in carrying on the operation.

In spite of the complete success of these experiments, the introduction of heated air into the iron works encountered great difficulties. It was necessary to conquer not only the power of habit, but the prejudice generally existing, that the coal is sulphureous, and that its transformation into coke is not only favorable to combustion in the smelting furnace, but that it is indispensable to the making of iron of good quality.

This plan, in use four years in the environs of Glasgow, which it has saved from certain ruin, has scarcely passed the frontiers of Scotland. However, the wonderful advantages which it has pro-

duced, have begun to triumph over these prejudices, and gradually to extend its use in the different provinces of England. I know of twenty-one works containing sixty-seven furnaces, which work with hot air. In Scotland, six; Flintshire, one; Derbyshire, three; Newcastle-on-Tyne, two; Newcastle-under-Line, two; Staffordshire, five; Pontepool, two. Total, twenty-one.

The iron made at these furnaces is generally No. 1, proper for casting the nicest work.

The plan is equally applicable to the metal intended for bar iron. To obtain this quality of metal it is only necessary to change the proportion of fuel and mineral. The forges upon the Tyne Iron Works, near Newcastle—of Codnor Park, near Derby—employ for the manufacture of bar iron, none but the pig metal produced in the hot air furnaces.

In most of the establishments cited, the crude coal has been substituted in place of coke. In some works, where this substitution has not yet been adopted, they assured me, as at Monkland Iron Works, near Glasgow, that the temperature of the air was not raised sufficiently to enable them to pass from the manufacture by coke. In some others, the quality of the coal being extremely bituminous, as near Newcastle, appeared to be an obstacle to the use of coal in the natural state.

The employment of hot air is not yet introduced into the great works at Merthyr Tydvil, Wales. The small consumption of coal which is employed crude, as I shall indicate at the close of this report, and the high price of the patent, has retarded its adoption; but I have no doubt that this plan will produce in this country a sensible saving in the consumption of fuel.

To appreciate the advantage which results from the employment of hot air, I shall give a statistical view of the works visited. I will describe the apparatus as far as they differ from each other; and I will compare the consumptions and expenses incident to the production of a ton of iron, before the introduction of hot air, and at present. This description will no doubt appear tedious, but in so important a question, and one which may have immense influence upon our forges, I think nothing should be omitted tending to instruct our iron masters. I will then give some details upon the coals used in these works, and upon the expenses of manufacture in the Welsh works.

Finally, I will terminate the report by a recapitulation of the principal experiments which have been made in France to introduce the use of hot air in the iron works.

Before commencing this description, I should pay a just tribute of acknowledgment to the proprietors of the works which I have visited. Almost all have procured me, with a noble generosity, the means of studying their establishments with advantage. They have shown, in this circumstance, that the sole rivalry which exists between France and England is that of emulation.

To be continued.]



[From the Genesee Farmer.]

**ON DRAUGHT. No. II.**—In my last number, I alluded to power, in the abstract, and made some suggestions in relation to the difference between animal and mechanical power. Leaving the subject of mechanical power, as I then proposed, I shall now proceed to consider the application of animal power; and in so doing, shall have reference principally to the power and use of the horse, whose services are in constant requisition, and whose powers are familiar to us all.

The application of the power of a horse, in the ordinary occupations of life, would seem to be a very simple matter, as it really is, and hardly worth a minute investigation; and yet we shall find, as we progress, that the result of every animal effort must depend upon a vast variety of principles and circumstances, connected with the exertion made.

Upon the structure of the animal, much may depend, as I had occasion to notice when treating upon the Horse in vol. ii. Every animal is a beautiful piece of mechanism, made up of exquisitely fine wrought pulleys and levers, which are forced into vigorous action at every exertion of power. A horse, from the very nature of his formation, is peculiarly calculated for draught. To exemplify this, let us consider for a moment the difference in applying the power of a man and a horse. The process of dragging is produced by throwing the body forward, and making its weight available as well as its strength, thus making the feet the fulcrum of a lever, and the weight and strength the effective power. The centre of gravity in both animals is about the centre of the body, to wit, just behind the shoulders in the horse, and just below the arms in the man. Now, supposing the weight and strength of both animals to be the same, the fact, that the hind legs of the horse must be considered the fulcrum, necessarily throws the centre of gravity much further forward in the horse, than it could possibly be done by the man. Consequently, the effect produced must be in proportion to the weight of the body and the distance the weight is applied beyond the fulcrum. This is constantly the case in practice. The muscular strength of a man is nearly as great as that of a horse, but from his upright construction, he cannot apply it in the same way. He can carry a great weight up a ladder, if applied to his shoulders, and yet in the act of pulling, his power is lost, for the want of weight, and its proper application. The horse too, in ascending a steep hill, can produce very little effect, because in that case his whole muscular strength must be exerted against his own gravity and that of the load; while on a horizontal surface, he is enabled to take advantage of his great weight, as well as muscular powers.

Now, although the weight of a horse may remain the same, and be applied under most circumstances with the same effect, not so with the muscles. A constant strain upon them will soon destroy their power of action, and render the animal useless. We are all aware of this from experience,—thus we feel more fatigue by standing than by walking, because one particular set of muscles is then kept constantly exerted. We must therefore vary the resistance, so as to suit the power and gait of the animal. But in varying the resistance, it cannot be elastic or yielding, except at the expense of power; for in that case, if too much power should be applied, the horse would naturally fall forward, and thereby lose his exertion; and if the power should be insufficient, he

would be drawn back by the strain, and it would require a greater effort to restore the motion. This is constantly exemplified in towing canal boats, and in the lead horses of stage coach teams. In the former case, the length and curve of the rope give an elasticity to the strain; and the necessity of keeping the rope out of the water compels the animal to keep up an unremitted pull in an oblique direction. So in harnessing horses one before another, the leader by tightening the traces is constantly relieving the strain from the wheel horse, and the wheel horse from the leader, so that these horses labor under all the disadvantages of a long, elastic, and constantly yielding load, which is not only fatiguing, but prevents their united exertion upon the carriage. A horse therefore, to work to advantage, must have a rigid resistance, but neither uniform, nor without remission. Hence we readily perceive, why a horse works easier on an undulating road than upon a perfectly level one, and also why he will draw more, when attached directly to his load, than when at a distance.

The effect gained by the action of a horse, or in other words his productive muscular power, must depend upon his rate of speed, the power of traction he can exert, and the number of hours he can work. As these are important considerations, connected with the application of animal power, it is desirable to examine them more in detail, and with that view, I shall avail myself, as heretofore, of the statements and calculations of Mr. Tredgold and others.

Neither the speed or power of a horse can be of any avail, unless some useful effect is produced, over and above mere velocity. Now, the limit of speed in any horse is the distance he can accomplish in a given time, for several days in succession, without weight; and the limit of his power, is when the weight can scarcely be moved. The medium point between these two limits is evidently the one most advantageous for the application of his power. This medium is said to be half the extreme or limit of velocity of a horse working unloaded; and the force of traction, half the limit of his power. For instance, if six hours be the length of a day's work decided upon, and if a horse working that time can go six miles per hour unloaded, and therefore producing no useful effect, and supposing the limit of power of the same horse equal to 250 lbs., it is found that he will do the most work in the same number of hours, when drawing a load at the rate of half six, or three miles per hour; and half of 250 lbs. or 125 lbs., will be the strain corresponding to this speed. As the limit of velocity depends upon the time the speed is kept up, the following table, drawn from experiments, will show the proportion of duration of labor, and maximum of velocity, of the average of horses:

Duration of labor in hours.	Velocity in miles per hour unloaded.
1	14
2	10
3	8
4	7
5	6
6	5
7	4
8	3
10	2

This evidently shows the advantage of reducing the speed, and prolonging the exertion. It will here also be seen, that the velocity of horses, corresponding to eight hours' work, is five miles and a quarter per hour; and consequently the rate at which he would travel when loaded is but little more than two miles and an half per hour. But Mr. Tredgold estimates, from long ex-

perience, the time in which the average of horses can accomplish most work without injury to themselves, to be only six hours per day, instead of eight, which will of course increase his average velocity when loaded, to three miles per hour.

But we cannot always control the velocity and time of duration, as here supposed, for our stage coaches, and other conveyances for passengers, have reference only to speed, and the great object of proprietors is to obtain it with the greatest economy. Mr. Tredgold has given a table which shows at once the reduction of effect by increasing the velocity. A force of traction of 125 lbs. continued for six hours at the rate of three miles per hour, is taken as the standard, and considered equal to the arbitrary number, 1,000. The first column will show the velocity or rate per hour, continued for six hours per day; the second represents the force of traction of which the animal is capable; and the third, the comparative effects produced.

Miles per hour.	Force of traction in lbs.	Effect produced.
2	166	888
3	125	1,000
3½	104	972
4	83	888
4½	62½	750
5	41½	555
5½	36½	500

If, however, the hours of labor be lessened, taking the velocity corresponding to the greatest useful effect, the results will be much greater, and the velocity may be raised much higher, as will be seen in the following table.

Here the first column is the length of day's work, the second the velocity corresponding to that time, or half the limit of velocity shown in table first, and the third column the comparative effect produced, the force of traction being in each case 125 lbs.

Duration of labor in hours.	Velocity—miles per hour.	Effect produced.
2	5½	578
3	4½	709
4	3½	813
5	3	909
6	2½	1,000
7	2	1,063
8	1½	1,110

To attain higher velocity, it is necessary still further to reduce the load, and the following table is calculated upon the supposition of the strain being only one half the last, viz. 62½ lbs.; this is about the average exertion of each horse in a four horse heavy stage coach.

Duration of labor—hours per day.	Velocity.	Effect produced.
4	5½	613
3	6 2-5	534
2	7 4-5	434
1	11	307

In mail or light coaches, where ten, eleven, or twelve miles an hour is attained, the average strain of each horse is barely 40 lbs., and the effect produced, not much more than one half the above, or 160.

These tables are calculated upon the supposition that the roads are good and the resistance small, and therefore allowance must always be made when roads are uneven, for increased resistance, and a corresponding expense of power. It will be observed, too, that in rapid travelling the power is much more expensive, owing to the great loss sustained by increased velocity; and the bad consequences of a uniform strain are more severely felt by the horses, and therefore occasional relief much more urgent.

From all that has here been stated, it will readily be seen how important it is to all persons engaged in transporting property



to understand fully the principles which regulate the increase or diminution of effect produced by their teams, and no persons have a greater interest in this subject than farmers. Their great object, with others, is to obtain the greatest amount of effect, with the least expense, and with the least expenditure of power. Let every man then, investigate this subject for himself, that he may know when and how he is obtaining the greatest possible effect, from the expense and power applied. QUERCUS.

### No. III.

In farther pursuing our inquiries relative to the application of animal power, the *modus operandi*, or the manner of attaching the power to the weight, forms an important consideration. We have seen that the structure of the animal, his muscular power, speed and bottom, and the quality and degree of resistance, all have more or less influence upon the effect produced; and we shall now find that the mode of harnessing a horse, and attaching him to his load, also has an influence upon his productive labor.

If we could always use our draught horses upon railways, where the resistance is so slight, and its quality exactly what it should be, it would be a matter of little importance, in ordinary cases, how we connected them with their loads; but while we have to encounter every variety of resistance, up hill and down, over rough roads and smooth, it is important to avail ourselves of every circumstance, however trifling, which may increase our products without injury to our animals, or expense to ourselves.

In ancient times the harnessing a horse was a very simple matter. A strap around the neck, or a band around the girth, with a connecting rope or leather, was all that was thought necessary; and even in more modern times, every nation has a mode peculiar to itself, though all depend upon one and the same principle for effect.

But whatever may be our preferences, or however many our expedients, to decorate our animals, or modify their labor, the effect they produce will always depend in some measure upon the arrangement of the traces.

The angle of inclination, or in other words, the direction of the traces from the shoulder to the load, has been a topic of much discussion. There are but three modes of directing the traces: horizontally from the shoulder to the load—an upward inclination from the same point—and a downward inclination. These have all had their advocates; but so far as I can judge, the force of traction is not altered in either case. If the trace inclines upward from the shoulder, then a portion of the animal's weight is borne by the trace, and of course communicated to the carriage; and if the trace is inclined downward, the effect is, that the horse lifts, as it were, a part of the load; while in both cases, the force of traction is the same as that exerted upon a horizontal trace. In the first case, the effect is increased by the weight of the animal; in the latter, by his muscular strength, or capability of sustaining weight. The advantage or disadvantage, then, of either of these modes of application, must depend upon something else than mere force of traction.

But there is, nevertheless, advantages to be gained in the use of these several modes. It is evident, from the very construction of different horses, that their capabilities are essentially different, though their force of traction may be the same. One may be a small, muscular, nervous animal, exerting

an average force of traction of 125 lbs.; another, with large muscular legs, is perhaps calculated to sustain a great weight; while a third may possess an unwieldy bulk of flesh and bone, which of itself is a load, and yet neither of the latter horses be able to exert a greater force of traction than the former. In the first case, comparing one animal with the other, nothing would be gained by deviating the traces from a horizontal direction. In the second, an evident advantage would be gained by inclining the traces downward, for then the effect would be increased by putting a part of the load upon the horse, thereby leaving less weight to be operated upon by his force of traction. And in the last case, a corresponding advantage would be obtained by inclining the traces upward, so as to take the benefit of the animal's weight in addition to his strength. Hence it is evident, that so far as the animal is concerned, the inclination of the traces ought to depend upon his particular capability, and not upon any general rule.

But, independent of the animal, there is another consideration which should influence the inclination of the traces. In the above cases, I have supposed the weight to be moved upon a smooth surface; but it is evident, where the road is rough and the resistance constantly varying, a great advantage may be gained by enabling the horse to lift a part of his load over the obstacles; which will be effected by inclining the traces downward, let the animal's capabilities be what they may. On most of our roads, however, there is a constant variation from smooth to rough, from ascent to descent; and it will, therefore, be desirable for every man to fix upon that inclination which on the whole will best suit his circumstances; for it would be impossible to change the direction of the trace at every change of surface. Hence we find how much more effect wheel horses are enabled to produce upon our common roads, than leaders; for the latter can never apply their strength except in a horizontal direction; while the former exert the same force of traction, and at the same time increase the effect, by their nearness to the load, and relieving the weight. Hence, too, it is evident, that upon ordinary roads, the mode of harnessing horses one before another, as in our stage teams, is not the most efficacious mode of applying their powers. The plan adopted by the New-Jersey and Pennsylvania teamsters, of harnessing four horses abreast, and directly to the carriage, is doubtless the most efficient, if not the most convenient.

The common use of the gig, or dray cart, is another exemplification of this principle. The weight thrown upon the shafts is the same thing as weight applied to the traces by a downward inclination; and it is well known to practical men, that most horses will carry the same load easier in this way, if correctly divided, than where the whole depends upon the animal's force of traction.

The fitting of the trace to the collar is another point worthy of remark. The structure of the horse, however, determines this matter almost wholly; and generally, in this country, it is judiciously applied. The connecting point between the collar and the trace should be about two-thirds of the distance from the top of the collar to its lowest extremity, for there the collar bone is smallest, and the most muscle is presented to sustain the pressure. The old fashioned New-England mode of applying a connected trace around the breast, and sustained by a strap over the neck, was exceedingly irksome to the horse, as the whole strain passed directly over the joint

of the collar bone, and thereby nearly paralyzed the operation of that joint.

In general, then, where the road is smooth and the gait slow, the traces should be as nearly horizontal as possible; unless where an extraordinary exertion is required, and then the traces should be a little inclined downward, so as to put a small part of the weight upon the horse. When the road is rough, and the gait also slow, the traces should be applied still lower down, so as to give the horse the greatest power over obstacles. But where great velocity is required, without much attending weight, the nearer the traces can be brought to horizontal the better, for then the horse is enabled to exert his force of traction without any counteracting influence.

In my next number, I shall proceed to consider, in part, the second branch of this subject, to wit, the vehicles to be moved, in connection with the channels of conveyance, but with especial reference to Canals and Canal boats. QUERCUS.

**CHINESE GONGS.**—We have been furnished by a friend with several numbers of the *Asiatic Journal*, in which we find the following description of the composition and manufacture of the "Chinese Gong," an article now much in use in hotels. They are, especially to those unaccustomed to early rising, instruments of "horrible music;" yet, to many, an article of considerable interest, as it has often been said, and by many believed, that they cannot be made in this country.

**Composition of Chinese Gongs.**—In the *Annals de Chimie* for November, there is the following account of the Chinese process of manufacturing gongs and cymbals, translated by M. St. Julien from the *Teen-kong-kae-wei*, a Chinese encyclopædia of arts and manufactures:

"The red copper, used in making musical instruments, must be alloyed with mountain-tin,\* which does not contain a particle (*lit.* a vapor) of lead. In order to make gongs (*lo*), &c., eight pounds of copper are alloyed with two pounds of tin. If you wish to make little bells or cymbals, the red copper and the tin must be much purer and finer than for gongs.

"When a gong is to be made, it must not be cast in the form it is to have, and then forged with the hammer. You must begin by founding a thick sheet of metal, which must be cut round, and then beaten with the hammer. For this last purpose, the round sheet of metal must be spread upon the ground, and if the instrument is required to be of large size, four or five workmen must be placed around, to hammer it. The sheet will spread out and enlarge under the hammer, and its edges will rise up. Then the instrument will begin to emit sounds, resembling those of a musical cord. All these sounds proceed from the points which the hammer has struck (*lit.* from the points struck by the cold hammer). In the centre of this drum of copper, a boss or round elevation is formed, which is struck, and the blows of the hammer give it the tone. Two tones are distinguished in the gong; the male tone and the female tone. Both depend upon the rising being less or greater than ought to be given, with rigorous exactness, to the boss, according as one or other is desired. By doubling the blows

\* The Chinese have two sorts of tin, mountain-tin and river-tin; both are found in the province of Kwang-se.



of the hammer, the instrument acquires a grave tone."

M. Darcet, in a note upon this translation, observes: "The only thing I find correct in this account is the composition of the alloy, of which the Chinese author states these instruments are formed. I have analysed seven gongs and twenty-two cymbals, and I have always found, in 100 parts, about 80 of copper and 20 of tin. It is true, about five or six years ago, an original letter was communicated to me from a missionary, which stated that gongs contained, besides copper and tin,  $\frac{3}{100}$  of bismuth; but the properties of this alloy and the result of the analyses just mentioned, show that the workman deceived the missionary on this point. I regard then, as a fact proved, that these gongs and cymbals are composed of an alloy formed with 80 parts copper and 20 of tin; but this is far from sufficient to enable us to fabricate these instruments; for this alloy is as brittle as glass, and if it be used as it comes from the crucible, it would be not only impossible to forge it, but even to use such instruments, merely cast with this alloy, without their breaking. This happened to an untempered gong, which had been made at the school of Chalons for the king of Prussia, and to the gong at the opera, which being cracked, was heated in order that it might be mended with silver solder. The alloy of 80 parts copper and 20 of tin is so brittle, especially when hot, that it may be reduced to powder. This alloy has great density; its grain is very fine, and its fracture almost as white as that of bell-metal. Chinese gongs and cymbals, on the contrary, have a small specific gravity, and a fibrous fracture exhibiting the color of the alloy, of 90 parts copper and 10 tin, used for cannon. Fragments of gongs and cymbals, far from breaking under the pestle, are malleable, and may, moreover, be bent till the two sides of the piece form together an angle of 130 or 140 degrees, without breaking. It follows clearly from this comparison, that gongs and cymbals cannot be fabricated as the Chinese author pretends; that it is only by means of some peculiar process, some sleight of hand, that an alloy of 80 parts copper and 20 tin can be employed in this manufacture. This secret consists in tempering the alloy; in fact, when heated to a dull cherry red, and plunged into cold water, it takes instantly all the physical characters of the gong and cymbals: I have manufactured by this process upwards of sixty pairs of cymbals, and experience has fully justified what I have stated.

Nothing is said in the Chinese account about tempering; yet without this operation, it is impossible to fabricate these articles. As to the mode of making them, the alloy of 80 parts copper and 20 tin, even when tempered, cannot possibly be forced, and especially beaten out. All the Chinese author says about casting the alloy in the form of a plate and beating it out with the hammer, is a mere fiction, imposed upon him by a Chinese artificer, just as our artificers endeavor to mislead curious visitors in our manufactories. The following method is, in my opinion, the true one.

"The model of the instrument is forged in red copper or brass; to this model is given exactly all the desired forms, by making the face of the hammer penetrate more or less on the two surfaces, so as to form that continuity of spherical hollows and salient parts we see upon cymbals, and especially gongs. When the model is finished, it is employed to make a mould in sand, in putty, or in metal. An alloy of 80

parts of pure copper and 20 of fine tin is prepared, which is run into an ingot; it is then re-cast and run into the mould. The piece, when taken out of the mould, is rough-scraped; it is tempered as is done with steel. If it is misshapen, by plunging it red hot into cold water, the shape may be rectified by the hammer and by flattening it with gentle blows. The required tone may be given, either at first, by forcing the temper more or less, or afterwards, by hammering; it is polished by means of a lathe, as is done with saucepans of copper or brass, and the instrument is finished."

**Buildings of Canton.**—In the buildings of Canton, we have doubtless as great a variety of structure and style, and as fair specimens of Chinese taste and art, as can be found in the whole empire. A large part of the city and suburbs is built on low ground or flats. Special care, therefore, is requisite in order to secure for houses and temples a solid basis. Near the river, and in all the most loose or muddy situations, houses are raised on wooden piles, which make the foundation as secure as brick or stone, and perhaps more so. In some cases, the piles rise above the surface of the ground, and then the buildings, constructed of wood, rest directly on them; but, in other instances, the piles reach only within a few feet of the surface, and the remaining part of the foundation is made of mud, brick, or stone. When this is done, the walls of the houses are usually carried up and completed with the same material. Not a few of the houses are entirely baseless, or have only a slender foundation of mud, of which also their walls are composed; and hence, in severe rain-storms and overflowings of the river, many of the walls are prostrated.

Bricks are in most general use for the walls of houses; perhaps three-fifths of the whole city are built of this material; of the remaining part, a very large portion is constructed of mud: most of the Tartars in the old city inhabit houses of this description. Stone and wood are not very extensively used for the walls of houses; the first is frequently employed about gateways and for door-posts; and the second for columns, beams, and rafters. Many of the floors of houses and temples are formed of indurated mud; marble flags are sometimes used for the same purpose, and often tiles. The latter, when made very thin, are used for roofs; they are laid on the rafters in rows alternately concave and convex, and forming ridges and furrows, luted by a cement of clay. Windows are small, and rarely supplied with glass; paper, mica, or shell, or some other similar translucent substances, taking its place. Very little iron is employed in building houses.

Such is the general style, and the usual material, of the buildings of Canton. In passing through the streets of the city, the spectator is struck with the difference he finds in its various buildings—though this diversity does by no means fully exhibit the relative condition and circumstances of the people. A few only are rich; and the external appearance of their houses does not at all exceed in elegance those of the middle class. Many are very poor; and the aspect of their habitations exhibits abundant evidence of their abject state. The poorest people are to be found in the extreme parts of the suburbs, along the banks of the canals, and in the northern part of the old city; their houses are mere mud hovels—low, narrow, dark, uncleanly, and without any division of apartments. A

whole family of six, eight, ten, and sometimes twice that number of individuals, is crowded into one of these dreary abodes. It is surprising that people can live, and enjoy health, and even long life, in these circumstances. To pass through the streets or lanes of such a neighborhood, is sufficient to reconcile a person to any ordinary condition of life. Neither intelligence nor industry could ever be confined in such miserable cells.

In habitations a little more spacious and cleanly than these, perhaps one-third part of the population of Canton have their abodes. These stand close on the streets, and have usually but a single entrance, which is closed by a bamboo screen suspended from the top of the door. Within these houses there are no superfluous apartments: a single room, allotted to each branch of the family, serves for a dormitory, while a third, which completes the number into which the whole enclosure is divided, is used by all the household as a common eating-room. Chinese houses usually open towards the south; but in these, as also in the poorer kind, this favorite position is disregarded. Houses of this description are rented at four or five dollars a month.—[Chinese Repos.]

**QUICKSILVER VS. STEAM.**—It is stated in the London Times that the Earl of Dundonald (better known as Lord Cochran) was examined last session, before the Common's Committee, on steam navigation to India. His Lordship, among other matters, said he had projected "a substitute for steam," as well as "a new mode of propelling vessels." The substitute for steam is quicksilver; and he employs it "to produce power by exhausting one vessel and compressing air in another, thus forming an atmospheric plenum or vacuum, which will produce the same effect as the plenum and vacuum formed by the generation of steam and its condensation." This plan (superseding the necessity of carrying coals) he added, is peculiarly adapted to agitated water like the sea. The plan may be wholly worked without fuel. The evidence and papers are too long for extract, but his lordship concludes this part of his evidence with stating, that "vessels fitted with quicksilver apparatus might be provided with sails of the usual kind there would be no smoke nor any fire, and there need be no indication from their external appearance that they are equipped in any other manner than as sailing vessels. As to the method of propelling without paddle wheels (his Lordship says), I should be happy to lay it before the committee, were my patentright secured."

**HOW TO ACQUIRE KNOWLEDGE.**—Young men, would you be intelligent? Carry a book about you *always*. Not a novel—but a work of utility—a work in which you may read of realities, not fiction. Would you be wise? Open and read that book whenever you have a moment of leisure. I recollect to have read an anecdote of a shoemaker, even after he worked as a journeyman, who always kept a book open before him, so that he might not lose a moment, but be preparing himself for future usefulness; and the result was, that he became not only one of the most eminent, but one of the most useful men of his day. Why, my young friend, may you not, by pursuing a similar course, also become eminent and useful to your country and your fellow men? Adopt the course, and give it a fair trial, and if you do not succeed to the extent of your ambition, I will guarantee that you will not be the worse mechanic, or citizen, for the experiment.



## NEW-YORK AMERICAN.

MARCH 14—20, 1835.

## LITERARY NOTICES.

ORNEY'S PENTOGRAPHIC ILLUSTRATIONS OF THE HOLY SCRIPTURES, &c. &c., Part I: ORNEY, 22 Nassau street, New York.—We have had occasion heretofore to speak of the ingenious machine—the Pentographer—which does by mechanism, what the combined operation of the human eye and hand, was alone supposed able to effect.

The work now before us, furnishes accurate copies of the remarkable series of medals executed by Thomson of Birmingham, illustrating the Scriptures—and the effect produced by the engravings is really almost equal to that of the medals themselves. The reverse of each medal presented a brief historical extract from the Bible, explanatory of the subject selected. This is given too by the Pentograph, so that the face and the reverse of the medal are equally well preserved.

The whole will be completed in eight numbers, to be issued monthly at, for subscribers 37 1/2 cents each, for non-subscribers, 50 cents.

REPRINT OF BLACKWOOD'S EDINBURGH MAGAZINE, THE METROPOLITAN AND FOREIGN QUARTERLY, Nos. 2 and 3: N. Haven, PECK & NEWTON; N. York, P. HILL & Co.—This is, we are told, the only reprint of Blackwood, or the Metropolitan. The three works which this undertaking comprises, would cost, if imported, \$35. They are offered here together for seven dollars! and well printed.

FRANKLIN LIBRARY OF MODERN LITERATURE, PARTS XII. XIII. XIV. XV.; N. York, WALLIS & NEWELL.—The Bondman, a story of the time of Wat Tyler, and Tales of Woman's Trials, by Mrs. Hall, chiefly occupy these four numbers, of which the price is only one shilling each.

THE AMERICAN MONTHLY MAGAZINE, New Series, No 1; edited by C. F. HOFFMAN and H. W. HERBERT: New York, D. K. MINOR, & T. & C. WOOD.—This is no new candidate for popular favor, but one that has given proofs of deserving it, and wears well, what it has fairly won. In one respect it does indeed present a new claim, and that is, its having passed into the possession of the author of "A Winter in the West," Mr. C. F. Hoffman. We feel assured that this is a claim which will be readily allowed, and that the talents and acquirements which he will bring to this Magazine, will add to the favor with which, while under the sole control of Mr. Herbert, it has been so deservedly received. Their united labors, aided by contributions from well practiced and well renowned pens—as we have reason to know they will be—cannot fail to establish the reputation and extend the circulation of this periodical. The number before us, has a large share of good papers; the first and the last alone, we apprehend are from the pens of the editors. In "the fortunes of the Maid of Arc," it is impossible not to recognize the glowing pen—the abounding incident—the impassioned style, and the admirable fidelity to historical costume, which made "Some Passages in the Life of Mary Queen of Scots," and other papers on analogous subjects, so eminently attractive and impressive.

In "The Ghost riders," the descriptive powers, the delight in Indian legends, and the vivid imagination, which give to "the Winter in the West" the interest of romance without departing from the soberness of truth, are again exhibited to advantage. It is a thrilling story.

But we find it impossible to speak at length of

all the contents of the Magazine, tho' we will not deprive our readers of one, at least, of its tales. It is not long, and it is exceedingly well told.

A word to the publishers. The paper should be better, and the stereotype more regular and accurate.

## An Incident at Algiers,

DURING THE VISIT OF DECATUR'S SQUADRON IN 1815.

The bay of Algiers is one of the most beautiful I have ever seen. The harbor is in a semi-circular form; at the further recess of which the city rises gently from the sea; and her white walls, flat roofs and terraces, from the narrowness of the streets, seem, from the seaside, joined together until they reach the surrounding hills—which are crowned with vineyards, and form altogether a striking and picturesque amphitheatre. On the western point of this harbor, a neck of land projects into the sea, and on its extremity is built one of the strongest castles for the protection of the place. It was from the guns of this castle, that in a few months after the period of which I am speaking, the ship commanded by Admiral Milne, in the gallant attack of Lord Exmouth, suffered so severely. Close in with this fort our boats were obliged to pass on their way from our ships to the landing.

Delightful as was the appearance of all this to the eye, yet from our early recollections of blood and crime connected with the history of the place, we beheld it but as a "whitened sepulchre," and the intimation that we were soon to sail for the ulterior objects of our expedition, was received, I believe, with general satisfaction.

A constant intercourse had been established between the squadron and the shore from the moment when our difficulties with the Dey had been adjusted, and the treaty had been signed "word for word as it had been sent on shore." Crowds of officers were daily visiting the town, and among them the midshipmen of the different ships were always to be seen dispersed over the place, seeking with a perfect unconcern, even in sacred and forbidden ground, for objects to gratify their curiosity; receiving the courtesy of those Algerines with whom, when they were our prisoners, they had become acquainted, with as sincere a good-will as if they had never been enemies, or returning the haughty scowl of some stranger Turk with a smile of reckless indifference.

It was my good fortune, in addition to my ordinary visits on leave to the shore, to attend the commodore as one of his aids, in those which he made to the chief officers of the government; and I often had my feelings strongly excited by the humble looks and broken-hearted demeanor of the Christian slaves, by whom the lemonade and coffee were prepared and handed to us. Although habited in the loose petticoat-drawers, and slippers of the Turk, they were easily distinguished by their long plaited hair, the absence of moustache and beard, and above all by their dejected mein, from their lazy and overbearing masters. I had taken a deep interest in them, and had become familiar with many of their faces. Among them there was a young Italian of about five and twenty, the melancholy expression of whose handsome features had, upon my first seeing him, attracted my attention. There was something in his eye that spoke of prouder, happier days; and the quiet and almost indignant manner with which he calmly received his master's bidding, indicated that his spirit was not yet quelled within him, and was strongly contrasted with the readiness with which that bidding was obeyed when it administered to our pleasures.—It was evident that from some cause his feelings towards us were those of confidence and friendship. It might be that he looked upon us as connected with him by our common faith, or perhaps he felt grateful to us as the victors, who had humbled those who had enslaved him: and perhaps—and more truly as I afterwards thought—the hope of freedom was dawning on his spirit, and he regarded us as friends upon whom he might soon call for aid and protection. But whatever were his feelings, ours had been so strongly interested in his favor, that several of us juniors were at some pains to learn his story; and

through the kindness of Mr. P., of Virginia—who had been detained since the capture of his vessel, a parolled prisoner at Algiers, until released by our squadron—we were enabled to gratify our curiosity. The tale of poor Angelo Salvini has often been told with darker additions, but I thought it gloomy enough, when I first heard it.

It was a beautiful night in the spring-time season, and the breeze, that floated along the coast of Calabria, though rife with a thousand sweets, was not more blithe in its gambols over tree and rock, and moon-tipped wave, than two young hearts which there swelled with rapture, as a bridal party danced upon the strand. An hour afterwards the scene was fearfully changed. There were marks of disorder in the adjacent thicket, as if a large body of men had rushed from them towards the shore, and there were traces upon the beach that could hardly be left by the light foot of a dancer—

"Steps stamped and dashed into the sand,

The print of many a struggling hand!"—

and a silken scarf, or torn mantle, fluttered on the water's edge, or drifted before the rising wind, which now moaned around the headlands, as if unwilling to fill the lessening sail of the Corsair that was springing, with her prey, before it.

Poor Angelo! he knew not—and well he did not—what became of his bride. But like all exiles, who fondly think, that, can they but see their native land again, they may recover all that made it dear, his whole soul seemed bent upon seeing his Italian home once more, when somehow by the blessing of "our Lady," all would come right. He was never seen to smile, and there was that earnestness of expression in his face—that blending of manly resolution and winning gentleness, which had so struck and touched us at once—which, in a word, had interested all of us most deeply in his fate.

The incidents of that cruise were generally so novel and interesting, that the story of Angelo Salvini may have been forgotten by other officers, among themes of a gay and more engaging character. But there are reasons why it can never be erased from my memory.

The arrival and vicinity of our squadron had caused an additional rigor in the treatment of the prisoners, and as a precaution against their escaping to any of our ships, they were compelled to carry about with them a ball and chain, which in our country are only worn by the most desperate felons. Decatur, with that generosity which so distinguished him, did not hesitate at his interview with the Dey, strongly to remonstrate against this degrading sight, which he and his officers were compelled to witness. The Dey replied, that this severity was indispensable, while the Christian ships were in the offing; but that if Commodore Decatur would pledge his word as an American, and his honor as an officer, that he would not countenance the escape of any of the captives, their rigorous treatment should be relaxed, and every indulgence short of liberty should be accorded them during the stay of the American vessels. The pledge was given for the captives' sake, and strict orders were issued throughout the squadron, that no prisoner was to be allowed to enter a boat, or under any circumstances to be brought off to the ships.

It was about noon, one day, when after landing a superior officer on the mole, from the second cutter, we had shoved off, and letting fall our oars, were soon under rapid way. We had proceeded the whole length of the basin, and were just doubling the castle which I have already described, giving it only berth enough to avoid the low rocks, that are piled for some short distance around its base, and behind which a person might easily be concealed. We were so near, as we passed, that the musketoon of the Turkish sentinel was perfectly perceptible, as he paced up and down between the groups of cannoniers, who were eyeing us through the embrasures of two large pieces of ordnance, that nearly ranged with the point towards which I was pulling from the shore. My attention was directed to them, and the water was a little rough, which perhaps prevented me from seeing any object floating near the boat; and I was not a little surprised, when I saw the head



of a man suddenly dart above the gunwale, holding with his teeth a knife, while his hands grasped eagerly at the blades of the oars, as the headway of the boat appeared to be carrying it past him, before he could make good his hold. His hands were on the quarter before my order had saved him from more than one blow with the looms of the oars. I seized the struggling swimmer by the shoulder, and with the aid of my stout coxswain, he was quickly placed beside me in the stern sheets: but what was my horror upon discovering, while the man yet clung to the gunwale, that it was a Christian captive—that it was Angelo Salvini. The instant commotion among the people collected on the mole, told me that it was impossible to screen him for a moment. To carry him off to the ship, in the teeth of the orders I had received, would have been madness. Yet, how could I deliver him up to the hellhounds that were even now opening upon their prey! There was a discordant cry from the infuriated crowd upon the mole, which, although unintelligible to me, yet its dreadful import to poor Angelo could not be mistaken; and in a moment the cannoniers hurried along the walls of the fortress, while a dozen caiques shot from beneath its battlements. The eyes of my gallant crew, that but now melted with pity, flashed defiance, as they beheld this movement around the bristling cannon. But when they saw boats hurrying in pursuit, they curled their lips in scorn, and gripping their oars, with a nerve that made them quiver in their rowlocks, they glanced at me so imploringly for the captive, and so triumphantly for themselves, that pity and pride almost obtained the mastery over duty, in my bosom. A single word from my lips, and the destruction threatened by the Infidels would not have prevented my noble fellows from sweeping beyond the reach of the Corsair boatmen. A single word, and, if we escaped the fire of the Moorish battery, which, from past experience no one dreaded, the hapless Angelo would have been at least in temporary safety beneath the Stars and Stripes. But I knew my commander too well to tamper with an order, that had been so imperious as that in relation to the captives. His honor as an officer, and his duty as a disciplinarian, would alike have insured the surrender of Angelo, and the punishment of myself; an aggravation of misery to the one, and the disgrace attending so gross a breach of orders to the other, would have been the certain consequences of my pursuing a different course of conduct from what I did. Yet, I shall ever remember it as one of the most painful moments of my life, when, as the barge of a Turkish officer hauled alongside of me, I determined to surrender the fugitive. I turned for a moment to look, before the act was done, at Angelo,—there was a resolved fixedness in the expression of his face, as he eyed the exulting look of those who claimed him, that revealed the determined purpose he had formed. Freedom had been almost within his grasp, and yet not a murmur, not an imploring word escaped his lips—they moved, but I thought it was in prayer to that cross, the bright symbol of his faith, and before which he felt the crescent had often paled.

But when I gave him up, and they were dragging him somewhat roughly into their boat, he turned and gave me one parting look, while his eye rapidly moved from my button to my face, as if he almost expected to see my countenance bear witness to what he deemed the tarnished badge of our service. That look, I never can forget. It was a mingled look of contemptuous scorn, and disappointed confidence. And yet, I could not, and I did not blame him. He knew not that I, as well as himself, was the victim of my orders. He knew not that the pledge, given by a chivalric sailor as ever stepped a ship's deck, was given for the captives' comfort, and must be fulfilled for our honor: but that look, and the appealing murmurs of my men, almost shook my purpose; and, boy as I was, I so far forgot myself as almost involuntarily to seize my dirk, and to threaten, in my own language, as I leaned over the quarter, my impotent vengeance against the officer, in case he harmed the Italian. "The malignant and turban'd Turk" only answered with a scowl, as he turned round after gaining a boat's length from me.

The rapidity, with which the succession of incidents had occurred, prevented me from observing what had become of the knife, which, when I first saw the poor captive in the water, had attracted my attention, and I presumed that in lifting him on board, it had dropped into the sea.

My feelings had been wrought up to such a thrilling pitch of excitement, that ordering my men to drop the boat astern, in order to gain a more distinct view of the landing, we laid upon our oars watching his reception on the shore. A yell of delight told that they had touched the strand with their prisoner. There was an excited movement in the crowd—a rush and a struggle along the mole. My boat's crew sprung to their feet involuntarily,—and the tall bowman swore that he saw the knife of the Italian red with the blood of at least one Moslem, before a dozen ataghans had cut him to pieces.

Poor Salvini! To avoid the horrible fate that he knew awaited him in being bastinadoed to death, he had stabbed the Turkish officer, and had fallen an immediate victim to the vengeance of his men. O.

We abridge our Review to-day, not unwillingly, to make room for some poetry breathing of flowers and spring, sent to us, too, with a bouquet of most fragrant double violets, of which the odour and the associations—time has been—would have almost moved, even our editorial gravity, to the perpetration of rhyme. As it is, we have only plain prose to thank our unknown lady correspondent—for lady she surely is, not less by the taste of the *envoi*, than by the delicate hand writing of the annexed note—and to insert at the earliest moment the lines it enclosed.

To the Editor of the New York American:

At this season, when exotics are carefully preserved in green-houses, I am often reminded of a sprightly and appropriate effusion, suggested by an admirer of those beautiful and care-demanding favorites. The poetry was sent me by a friend some time since, as having been a source of much entertainment in her vicinity.

Will you be so indulgent, as to distinguish the enclosed by a space in your columns? and oblige an

UNVARIED PERUSER.

Mr. —, after arranging his conservatory for the winter, placed the following lines there, and proceeded on an excursion: upon his return, he found "the complain."

#### ON A GREEN-HOUSE.

Here, side by side, in beautiful array,  
The blushing plants their various forms display,  
Watch the clear sun, and open all their smiles,  
When he in courtship with his warmth beguiles.  
Gay emigrants! to this fair land they come,  
And call this peaceful scene their native home;  
The South sends many, some the Tropics' clime,  
Here spring reigns ever,—ever in its prime,  
Her *Jasmine*, *Catalpa* sends from far,  
That glens gay with many an ivory star;  
Spangled with gold, *Jacoba* richly shines,  
Like Sultan decked from bright Peruvian mines;  
With scarlet honors, the *Pomegranate* glows,  
And fragrant *Daphne* blooms 'mid winter's snows;  
Her aromatic scent *Verbena* sheds,  
And various shrubs meet here from spicy beds;  
The gay *Cerchonia* on the trellis towers,  
Spreads the effulgence of his golden flowers;  
While modest *Violets*, beneath his feet,  
And humble *lee* plant creep from their retreat;  
*Hibiscus* and *Hydrangia*, watery friends,  
Assemble here; this, rich with blossoms bends,  
The other, mounts aloft, and high its beauty sends.  
With yellow fringe, *Hypericum* is drest,  
Purer than snow *Cape Jasmine* wears a crest;  
No neck of swan so white was ever seen,  
As her chat flowers enshroued in glossy green;  
*Camellia*, here with vivid-lustre glows,  
And bloom unceasing springs from *Carna's* Rose;  
The ruddy *Orange*, of no winds afraid,  
And kindred *Lemon*, join their social shade;  
*Mimosa* seems a plant that feels, and thinks,  
Like a coy maid, from slightest touch she shrinks;  
In nightly sleep she closes all her leaves,  
But the new morn, expanding, she revives;  
Decked with white blossoms, here, the *Rubus* stands,  
That looks like curious work, from Chinese hands;  
Here shines the *Myrtle*, with *Geranium* pride,  
And rich *Chrysanthemum* like *Ena* can bride;  
The *Fuchsia*, with a diamond eye,  
And bright *Oxalis*, dip in Tyrian dye;  
With *Pinks*, and tall *Cerastium*, flourish here,  
And sisters more, with glistering robes appear;  
To this retreat, approach with cheerful mind  
Here nature's sweetest, loveliest, forms we find;  
Another Eden rises to our view,  
With colors ever bright, and ever new.

#### THE COMPLAINT.

At a full congregation,  
Of the leafy creation;  
In this once happy garden assembled;  
With once voice 'twas agreed,  
That 'twas time to proceed,  
As our griefs could no more be dissembled,  
And though nearly frozen,  
A *Jouquil* was chosen,  
To act as our scribe for the day!  
And the plants that were sick,  
Were prop'd on a stick,  
To hear what the speaker would say.  
Resolved, that each flower,  
That e'er decked a bower,  
To our Patron, shall gratefully bend;  
And for all favors past,  
Every breath 'till the last,  
Its sweetness shall cheerfully lend.  
Resolved, our complaint,  
Though 'twere almost too faint  
To speak half the anguish we feel  
Should yet be expressed,  
That we may be redressed,  
'Tis delightful such sorrows to heal.  
The who's summer long,  
Passed away like a song,  
We then were so happy and gay;  
The sun in the morning,  
Our bosom was adorning,  
And retired at close of the day.  
But thinned are our ranks,  
From the green sunny banks,  
Where careless we flourished and grew;  
Our sisters, and brothers,  
And various others,  
One, by one, from our circle withdrew.  
In the Green-house protected,  
While we are neglected,  
Secured from the cold chilling air;  
Where they sit snug, and warm,  
And heed not the storm,  
While we are left naked, and bare.  
And now, 'tis so sickly,  
A "*Pear*" that was "prickly,"  
Has quite died away with the cold;  
And "*Roses*," and "*Lilies*,"  
And "*sweet*" scented "*Willies*,"  
Have all prematurely grown old.  
This sad chilling weather,  
And envy too, ther,  
When we see them so gay, through the glass;  
We could march out in "*Palest*,"  
And give them a "*Box*,"  
For vexation whenever they pass.  
The "*Hydrangia*" too,  
Having nothing to do,  
Would drink all the day, if he could,  
And pretends, (who'd believe him!)  
'Twas done to relieve him.  
Tho' hard drinking we know does no good.  
And 'hen on a shelf,  
Thinking only of self,  
Sits the little "*Mimosa*" so shy;  
She's so very tenacious,  
And so little gracious,  
Not one of us dare to come nigh.  
Oh! 'tis "*Hormwood*" and "*Rue*,"  
Thus to have in our view,  
Our once meek, and humble relations;  
When such colds in our heads,  
Keep us all in our beds,  
To mourn o'er our own mutilations.  
Our "*Heart's-ease*" is fled,  
"*Jump-up Johnny*" is dead!  
The "*Larkspur*" no longer can soar;  
And the "*Nymph-in-the-Bower*,"  
And "*Lav's* bleeding flower,"  
Will ne'er feel the morning breeze more.  
Oh! how people will change!  
'Tis as true as 'tis strange,  
That the sweet "*Evening Primrose*" so fine,  
Which was watch'd with delight,  
When it burst on the sight,  
Now withers and none will repine.  
Not even the "*Mint*"  
Could buy such a tint,  
As deck'd our "*Queen-Margaret's*" cheek;  
But I have no "*Thyme*,"  
To bring it in rhyme—  
Its own faded beauty must speak.  
The "*Cactinary bell*,"  
Has rung its own knell,  
And now is laid under the yd!  
But from farther necked,  
His friends to protect,  
One plant waves its bright "*Golden rod*."  
Oh now then relent,  
Of such treatment repent,  
And let us be happy together;  
And each grateful vine,  
In beauty will twine,  
And again wave our gay "*Princess-feather*."  
"*Thistle-down* shall be spread,  
To pillow thy head,  
And never again will we quarrel;  
An "*Imp*" at "*Crucian*,"  
Will hunt in the lawn,  
And the brow shall be decked with the "*Laurel*."  
By order of the Board. JOHN QUILL, Sec'y.

We think our readers will be grateful to our  
fair correspondent for these charming lines.  
There is yet an answer to the complaint, which  
our circumscribed limits, compel us to omit.



## FOREIGN INTELLIGENCE.

By the packet *Virginian*, Captain Harris, from Liverpool, we have papers of the 11th ult. from that port, and to and of the 10th from London.

Our continental intelligence by the *Rhone*, is later than that by this ship. Our direct advices from England, before, were only to the 2d or 3d.

We find nothing of material interest. The approaching meeting of Parliament, and the effort to be made by the opposition to oust Sir C. Mansers Sutton, (who is still, it would seem, to be the candidate of the Administration,) and to elect Mr. Abercromby, occupy the chief space in the newspaper discussions. The towns and counties were entering so earnestly into the subject, as by public resolutions to instruct their representatives to be punctual in their attendance on the first day of meeting.

The reduction of the armies of the Emperor of Austria, for which we give the official decrees, is estimated by the London Times, not to exceed 20,000 men, which as it well reasons, on a permanent standing army of 350,000, is not much like reducing it to a peace establishment.

"A Winter in the West," is we are advertised in the London papers, as about appearing there from the press of R. Bentley. We predict confidently, a very successful run for it.

The London Courier of 9th pronounces, upon the authority "of a professional gentleman who has reason to be well informed," that the pregnancy of the Queen was certain.

The present King of Great Britain was born August 21, 1765, and the Queen, August 13, 1792. They were married July 11, 1818, and have no children. The present heiress presumptive of the crown, the Princess Alexandrina Victoria, daughter of the late Duke of Kent, was born May 24, 1819.

It turns out to be true that the Marquis of Londonderry has been appointed Ambassador to the Court of Russia.

The British ship Sir Thomas Munro, was lost on the Cape de Verd Islands, the captain, crew and passengers were brought into Plymouth in the American brig *Maine*, of Boston, Capt. Williams.

The late general election has returned one hundred and thirty-seven military and naval officers to Parliament.

Joseph Bonaparte came to London from his seat in the country, for the express purpose of meeting the Duke of Leuchtenberg, after the Prince had visited and dined with the King, at his palace at Brighton. The Duke and Joseph Bonaparte met at the house of a friend, where they were closeted for several hours.

It appears by accounts received from Vienna, that Austria has come to the determination of reducing her armies to a peace establishment, orders having been given to sell 10,000 horses belonging to the artillery, to send home part of the landwehr, and put the frontier regiments into their ordinary cantonments.

Our news from Madrid is of the 29th ult. at which time a general alarm existed lest a revolution should break out, and fresh troops are ordered into the capital from Estremadura. The greatest vigilance is exerted on the part of the Government;—the post office is strongly guarded, and large patrols circulate through the streets at night. In the *Proceres*, on the 27th, General Quesada attacked Llaner in a violent manner, recommending that he should be watched. The ex-minister had left Madrid on his way to Barcelona, where it was supposed he was to resume the Captain-Generalship of Catalonia, but the impolicy of entrusting him with such a command has been so strongly urged on the ministers, that we do not think he will be allowed to retain the post. It was reported, indeed, that he had been actually recalled. The promises to the mili-

nary regiment of Arragon have been broken.—Cadaro and others were ordered to the island of Island of Majorca, but suspecting evil designs against them, they made their escape. The non-commissioned officers were dismissed the service, the men drafted into our corps, and the regiments disbanded.

**PACIFICATION OF SPAIN.**—The London Morning Herald gives the following as the outline of Lord Wellington's plan for the pacification of Spain:

## CONDITIONS.

1. Abdication of Don Carlos in favor of his eldest son.
2. Withdrawal of Queen Christine from the Spanish dominions.
3. Immediate betrothment of the eldest son of Don Carlos with Isabel II.
4. The Government to be carried on in the name of Charles VI. and the *Estado Real* to remain in force.
5. A Council of Regency to be appointed, in order to govern the country until the young Prince be of age, (his majority being fixed at 18,) and to be composed of five members, among whom Zumalacareguay and the Marquis de las Amarillas are necessarily to be included.
6. An unconditional amnesty for all political offences.
7. Securities to be given to the people of the Basque provinces and Navarre, for the maintenance of their fueros.
8. All loans or debts contracted in the name of the Anti-Salique dynasty, or in that of Don Carlos, to be acknowledged and considered as the Royal debt of Spain.
9. All ranks, titles, and decorations, conferred by the present Queen or Don Carlos, to be declared the property of those to whom they have been granted.

Lord Fitzroy Somerset is said to have actually left England on this identical mission. Don Carlos is to be allowed £50,000 a year.

**RUSSIA AND TURKEY.**—The London Morning Chronicle, of the 9th ult., says—

"We venture to state, from circumstances which have come under our own observation, that if ever Lord Ponsonby be invited to submit to Parliament an account of his mission to Constantinople, he will be enabled to show that he has struggled—and not ineffectually—though almost single handed, against the scarcely concealed exertions of Russia for the ruin and final subjugation of the European provinces of the Turkish empire. It will appear, unless we are greatly mistaken, that our present, or rather, perhaps, our late Ambassador to the Porte has ardently devoted all the energies of a powerful and accomplished mind to the solution of the many perplexities by which the Turkish question is still unpappily surrounded. Above all it will be made manifest that his counsels, if they had been followed, would have contributed to save Turkey from the ruin which now awaits her, and would, moreover, have rendered unnecessary the expenditure of blood and treasure by which we must yet rescue Turkey from the fetters of Russia, if eventually we shall resolve not to suffer Great Britain to be excluded from the commerce of the Levant."

**THE EUPHRATES EXPEDITION.**—This expedition which, owing to adverse winds, has been so long detained, is now fairly under weigh, the bark George Canning having sailed yesterday. As soon as this fine ship reaches the coast of Syria a strong detachment of the garrison of Aleppo will be marched across the desert, about eighty miles, to the town of Bir, on the river Euphrates, where additional fortification will be constructed for the protection of the artificers while putting up the two iron steamers, the Euphrates and the Tigris, and as a permanent depot for the stores. Every means will be used to conciliate the Arabs, and we trust successfully. It is only from the smaller wandering tribes that hostile disposition is to be apprehended. With the more powerful tribes, who are chiefly stationary, such arrangements will be entered into as are likely to make them comprehend the peaceable nature of the undertaking. If no untoward accident occur

there is a great probability that the steamers will be completed in time to commence the descent of the river to the Persian Gulf by the middle of May. Although the principal object of the expedition be the opening of steam communication through Mesopotamia with India, it is hoped that the officers of the departments of astronomy, geography, geology, natural history, antiquities, &c. will have sufficient time for prosecuting their researches in this new and interesting field. The result of their labors will be looked for with anxiety by the whole scientific world. The expedition is under the command of Captain Chesney, of the Royal Artillery, who was lately gazetted with the temporary rank of colonel while on this particular service in Asia, and has been long and favorably known by the public for his science and enterprise.

Officers of the steamer Euphrates:—Lieutenant Cleveland, R. N., of H. M. steam vessel Phoenix, fourth in command; Mr. Chaslewood, mate, R. N., of H. M. steam vessel Salamander, eighth in command; Mr. Fitzjames, mate, R. N., of H. M. S. Winchester, ninth in command; one engineman and two assistants.

Officers of the steamer Tigris:—Lieut. Lynch, Indian navy, second astronomer, and second in command; Mr. Eden, mate, now in Syria, making preparation, R. N., sixth in command; Mr. Hector, master, late of the El Bourka, of the Niger expedition; one engineman and two assistants.

Scientific department:—Capt. Estcourt, 43d Light Infantry, pendulum and magnetic experimenter, third in command; Lieut. Murphy, R. E., astronomer and director of trigonometrical survey, fifth in command; Lieut. Cockburn, R. A., assistant draughtsman and surveyor, seventh in command.

Dr. Staunton, R. A., physician and naturalist. Mr. Ainsworth, surgeon and geologist. Mr. Staunton, chemist and assistant naturalist. Mr. V. Germain, draughtsman and assistant engineer.

Mr. Thomson, second draughtsman, and in charge of the chronometers.

Signor Riga, apothecary and interpreter. Hadgi Halil, second interpreter.

By the above arrangement, there is a reserve in every department of duty and science, in case of illness or death.

The following are a few of the details of the steamers:—Euphrates—105 feet long; 19 beam; 2 engines, 25 horse power; weight of iron, exclusive of machinery, 23 tons, 1 cwt. 3 qrs. 7 lbs.; weight of boilers, 16 tons 6 cwt. 1 qr. 18 lbs.; draught of water under 3 feet; weight of engine, 25 1/4 tons. Tigris—85 feet long; 16 beam; 2 engines, 10 horse power, weight of iron work, 14 tons 17 cwt. 2 qrs. 1 lb.; weight of boilers, 7 tons 14 cwt. 3 qrs. 5 lbs.; draught of water under 2 feet; weight of engine 11 1/2 tons.

The George Canning will probably lay in provisions at Cork, and stop a week at Malta; and, thence proceeding, land the heavy baggage, including the iron steamboat, the diving-bell, &c. up the Orontes, most likely at Antioch. A portion of the expedition, however, it is proposed, shall land at Scanderoun.

Arrived at Bir, the first object contemplated is an exploratory excursion down the river, to make friends with the Arabs, both the fixed and the wandering tribes; and examine more minutely than heretofore the general chance of success in the navigation of the Euphrates. It would then sail for Bassora or Korna; and, while the larger steam vessel was left for the purpose of keeping up and protecting the navigation of the Euphrates, the smaller one would be employed in assisting the labors in the sciences of geography and natural history, by navigating the Tigris and the Kawun. This, indeed, must be the most novel and interesting episode connected with this very important enterprise.

**THE FINEST PEASANTRY ON THE FACE OF THE EARTH.**—Again we have to record another of those barbarous murders that disgrace this country. Some time since a Black visited the neighborhood of Carnacon, and occasionally kept a boxing school, to which the young men about the place resorted for instruction. Two of these, Walsh and Byrne, had been spurring, and Byrne



knocked Walsh down and indiscreetly boasted of it. Walsh for this felt offended, and on Christmas day, in presence of many persons, required satisfaction for the offence by fighting him on the spot. Both took off their coats and were about to engage, when a man named Peter Staunton, about twenty-two years of age, came between them, and endeavored to prevent the quarrel, as they were all friends and nearly related. While performing the kind office of peace-maker, he was struck behind on the head with a stick by Walsh's brother Paddy, and instead of resenting this, he turned round, shook hands with him, and kissed him, and said he would never strike him in return. Walsh then struck him again. Some rioting after this took place, and Staunton and some others with him attempted to escape through a potato field, when he was knocked down by another man named Staunton, with a stone, into the furrow, where he lay unable to rise, and there, while on the ground, was struck with a long stone in the head by J. Walsh, the man whom he before attempted to save from being hurt. He was also struck twice on the side with a pair of tongs by one Kilcoyne. On examination it was found that his skull was severely fractured, and his body otherwise injured. An inquest has been held and warrants issued for the apprehension of those concerned.—[Mayo Constitution.]

**FACULTIES OF THE EAR.**—It is extraordinary what an effort nature makes upon the loss of sight to restore the deficiency by sharpening the sense of hearing and touch; as in the case of Huber the great naturalist, who has made so many discoveries in the minutiae of insects; and also of Mr. Goff, of Kendal, an eminent botanist, who can tell the name or species of any plant or flower by the touch. Dr. Darwin informs us, in his *Zoonomia*, that the late Justice Fielding walked for the first time into his room, when he once visited him, and after speaking a few words, said, "this room is twenty-two feet long, eighteen wide, and twelve high," all of which he guessed by the ear. Blind people have a peculiar method of presenting the ear, and in some cases acquire the power of moving it when much interested. The incessant use they make of it gives them an indescribable quickness; they judge of every thing by sound; a soft sonorous voice with them is the symbol of beauty; and so nice a discernment is a blind person of the accents of speech, that through the voice he fancies he can see the soul. Sir John Fielding possessed a great faculty of this sort; and he could recollect every thief that had been brought before him, by the tone and accent of his voice, for more than forty years.—[Gardiner's Music of Nature.]

**BILLETS DE PART.**—Whenever a birth happens in families of gentility, it is usual to send notes to the friends, apprising them of the event, the sex of the child, and the state of its health, and of its mother's. The same formality takes place upon a death, when the note indicates the day, hour, and place of funeral; again, in the case of a wedding, two printed circulars are sent together in the name of the parents of each party, to the respective friends of both families. The most intimate friends are invited to the wedding entertainments, whilst the more distant acquaintances are merely invited to be present at the marriage ceremony at the Church. These notes and circulars bear the common name of *billets de part*, and those announcing a marriage, announcing a marriage, answer to the bride's cake of the English, with this distinction, that the latter are sent after the wedding, while the former indicate when the ceremony is to take place.—[Le Mariage en France.]

**THEATRICAL COLORED FLAME.**—The *Journal des Connaissances Usuelles*, gives the following processes for producing various colored flames at theatres; flame of a red tinge, like carmine, is produced by burning three parts of alcohol with one of nitrate or hydro-chlorate of strontium. Red, the same proportion of cinnabar and alcohol; sulphate of soda with alcohol will produce the same light at a less intensity.—Orange color is obtained by the combination of alcohol with hydro-chlorate of calcined soda.—Yellow, by alcohol, and nearly all the hydro-

chlorates, in proportion of one of the first to three of the last. An emerald green, with alcohol and nitrate of copper; green, with alcohol and hydro-chlorate of copper; blue, with alcohol and boracic acid.

M. Dupuytren died in Paris on the 8th of February, after a lingering illness of several months, aged 57. He has left the reputation of being the first operating surgeon in France, and probably in Europe. Domestic affliction preyed upon his mind for the last few years of his life. He has left Madame Beaumont, his only daughter, a fortune of nearly 7,000,000f., besides a legacy of 200,000f., to found a chair of medico-chirurgical pathology. He has also left 100,000 crowns, to found an asylum for twelve aged physicians.

#### SUMMARY.

**THE RIVER.**—The Albany Evening Journal of Tuesday says, "the river is nearly free of ice. A sloop has arrived at Hudson."

**KENNEBEC ROAD.**—This road is now travelled over by very many persons, and we have observed lately a number of the American winter sleighs and carriages in town. The Maine papers and private accounts represent the timber business on the Kennebec and the adjoining streams as the most active for many years past. The demand for hay and oats a little beyond our lines is almost unlimited, and much of it has been supplied by our Canadian habitants at 20 dollars a hundred, and 2s. 6d. a bushel. The demand for lands for settlement on the American side is also very great and the spirit of enterprise which the people of Maine display in advances towards us, is astonishing; a few years must make the route of communication quite frequented, and give Quebec a very expeditious intercourse with the whole of the States and Europe.

[From the Quebec Gazette.]

The troops frequently visit the ice on the St. Lawrence. This afternoon, the Royal Artillery had a *field-day* on the ice, with four pieces of artillery, on sledges, going through a number of rapid evolutions with their guns, firing blank cartridge with great despatch, and affording an excellent idea of the manœuvring of artillery on the field of battle.

**Saluting an Earthquake.**—We mentioned a day or two since, that an earthquake was felt at Omoa, (Central America,) on the 22nd and 23d of January. It was occasioned, as we learn from the Boston Transcript, by an eruption of a mountain, east of Omoa—supposed to be the Congreho. The noise was like the sound of distant cannon and continued 18 hours. It was heard at the Belize, Honduras, 200 miles distant, and was answered by a salute from the fort, supposing it to proceed from a man-of-war outside the Keys.

**HARD TO BEAT.**—We are informed that a female in the lower part of Virginia, has given birth to seven children within the last ten months, four at one birth and three at another.—[Rich. Va. Compiler.]

If this prolific mother was of that complexion, "incompatible with freedom" what a treasure she would be deemed.

[From the Baltimore American of yesterday.]

**STEAMBOAT EXPLOSION.**—The opening of the steamboat navigation on the Western waters for the present season has already been marked by the occurrence of an explosion and loss of lives. Nothing short of the enactment of a law by Congress, with the strictest regulations and heaviest penalties, can effectually prevent the risk and loss of life and property to which they appear to be especially subject in that quarter of the country.

The Cincinnati Republican of the 9th inst. states "that the steamboat CAVALIER, Captain Thompson, burst one of her boilers, on her passage from New Orleans up the Mississippi, about one hundred miles below the mouth of the Ohio, where she now lies. Mr. Patterson, the clerk, who was standing upon the boilerdeck, was thrown up several feet and landed on the shore with two of his ribs broken. Capt Thompson was confined to his state room by sickness, and

escaped uninjured. The 1st Engineer died a few hours previous of the small pox. Several persons were injured, and, we learn, two more killed. The boat belonged to Ripley, in Ohio, owned in part by the captain and clerk; both very deserving, industrious and enterprising men. The crew have been brought to Cincinnati by the Wyoming, captain Holton."

The Legislature of Ohio adjourned on Monday the 9th—after a session of 14 weeks.

The American schooner *Sophonra*, Amos Chick, master, from Charleston, South Carolina, laden with pitch-pine lumber, rice and oats, and bound to Martinique, during the strong gale and hazy weather of Friday, struck on the Northwest breakers, bilged, and filled immediately.—The Crew and part of the cargo were landed at Mangrove bay, and the hull of the vessel was being towed in yesterday, by four of the Somerset Pilot Boats.

The brig *Enterprise*, Smith, master, of this port, with a cargo of slaves, from Alexandria, in the District of Columbia, destined to Charleston, South Carolina, after being blown off the coast, put into Bermuda, where the slaves were brought up on *Hobbes's Corpus*, and liberated.

The Bermuda papers state that they all had been provided for as servants in families.

**AMERICAN TRADE WITH CHINA.**—This trade during the last two or three years, has been rapidly increasing. We have before us a list of the vessels which arrived in China under the American flag, and departed therefrom, during the year ending June 30th, 1834. The whole number is seventy-nine. Of these 33 sailed for New York, 13 for Manilla, 9 for Batavia, 6 for Philadelphia, 4 for Boston, 3 for Valparaiso, 4 for Cowes, 1 for Lima, 1 for Baltimore, 1 for Salem, 1 for the Texel, 1 for Hamburg, 1 for Kamtschatka, 1 for Norfolk Sound, 1 for the United States (port not specified,) 1 for South America (port not specified).—[Journal of Commerce.]

The number of vessels which arrived in the port of Buenos Ayres during the year 1834 from foreign ports, was 261, of which 67 were American (in 1833, 91,) 61 British (in 1833, 74,) 43 Brazilian, 43 Sardinian, 14 Hamburg, 10 French, 5 Bremen, 5 Danish, 4 Portuguese, 2 Neapolitan, 2 Dutch, 2 Belgian, and of Russian, Chilian and Roman, 1 each.

**FROM BERMUDA.**—By the brig *Neptune* from Bermuda, we have the Bermuda Gazette of 3d instant. The following are extracts:

**The Rhadamanthus, Steam Frigate.**—This vessel having made a longer stay here than was expected on her arrival, has given very many an opportunity of visiting her; and the attention of Captain Evans, and his officers, has added much to the pleasures attendant on such an inspection. To those who have not had an opportunity of viewing the *Rhadamanthus*, we subjoin a few particulars of her dimensions as well as of her machinery, to assist them in forming some idea of the size, power, &c. of this splendid vessel.—The *Rhadamanthus* has now been from England about nineteen months, and her officers speak in the highest terms of praise of her qualities as a sea boat and fast sailer.

Length	165 feet.
Breadth inside of paddle-wheels	46 "
Tonnage	813
Engine Horse power	220
Paddle-wheel, diameter	21 feet.
Boilers hold	50 tons.
Coals	300

and consumes on an average when in full power, one ton per hour, and is propelled by every turn of the paddles half a mile; the wheel revolves usually about 18 times per hour.

Armament—6 guns.—1 34lbs long gun on the fore-castle—1 32 long gun aft.—2 32 short on each gangway.

A Sloop of War's Complement of men.—4 Engineers and 16 Stokers.

Samuel T. Armstrong, who has been elected several years Lieut. Governor of Massachusetts, and is now acting Governor, declines a re-election.



**BOUNDARY QUARREL.**—Ohio and Michigan, the one a State, the other a Territory, have a dispute about the boundary which separates the north part of Ohio from the South part of Michigan.—Ohio claims to run a line from the South point of Lake Michigan, direct to Lake Erie. This would include the whole of the Maumee Bay, and its surrounding rich lands. These, heretofore, we believe, have been in possession of Michigan. The Legislature of Ohio has ordered its Governor to take possession of those lands. Michigan says she will resist, and—according to the United States Gazette, of Philadelphia—"a law is published, enacted for the occasion, which renders it criminal for any one to hold any office in that territory, or in any part of it as it is now constituted, unless he is appointed by the authorities of that territory, or of the United States. The acting Governor has also given directions to Brigadier General J. A. Brown, to proceed into the disputed territories, and there ascertain whether any officers are holding commissions under the new movement of Ohio, and if so, immediately to enforce the act against them, calling to his aid the *posse comitatus*, if necessary. The acting Governor remarks, that there is but one feeling in Michigan, and that is decidedly against Ohio. Of course his Excellency means out of the disputed territory. In obedience to instructions from the Executive, General Brown announces that the crisis anticipated has arrived, and accordingly he orders out three brigades, and gives notice that if there is an officer in them who is not willing to peril "life, fortune and honor" for the territory, he is at liberty to give up his commission. These general orders conclude with the expression of a determination never to submit quietly to the invasion of their soil, whatever force Ohio may bring against them.

General Brown attended a public meeting held in the disputed territory, and was very roughly received. The meeting refused to hear him and his instructions, though subsequently, those of the meeting who were friendly to the authorities of Michigan, organized themselves, listened to General B. and passed a resolution approving the proceedings of the executive. This is the present situation of the dispute between the sovereign State of Ohio, and the appanage, Michigan.

**COMMERCE OF NEW YORK.**—The amount of duties which accrued at the port of New York, during the year 1834, was \$10,183,152

Amount of value of Imports for same period,	76,875,365
Value of do. for 1833,	60,944,400

Excess in 1834,	\$15,943,965
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Showing an increase in the amount of goods imported at this port, of more than 25 per cent. in one year, and that a year of unusual mercantile embarrassment.

<b>Condition of the Ohio Banks, January, 1835.</b>	
Capital Stock,	\$12,200,000
Capital paid in,	5,847,525
Specie,	2,489,912
Circulation,	4,564,898
Discounts,	6,799,247
Circulation over \$5,	3,382,321
Circulation under \$5,	1,182,577

The whole number of Banks in the State is twenty-seven. The largest capital is that of the Ohio Life Insurance and Trust Co., which is two millions of dollars. The Commercial, Franklin, and Lafayette Banks, all at Cincinnati, have capitals of one million each. Several others have capitals of half a million, and several of one hundred thousand dollars.

**Specie.**—The Globe states that the whole amount of specie imported into this country

since October, 1833, is \$24,428,594. Exported in the same time, \$3,000,000.

**NAVAL.**—The United States Frigate Constitution, Commodore Elliot, sailed on Sunday morning.

List of Officers attached to the United States Frigate Constitution:

Commodore J. D. Elliot, Commander.  
Lieutenants—J. B. Montgomery, F. Ellery, W. C. Nicholson, E. C. Rutledge, G. F. Pearson, F. E. Neville, L. M. Powell.  
1st Lieut. Marines, J. H. Hardy.  
2d do. do. Thos. T. Stone.  
Surgeon, T. J. Boyd.  
Assistant Surgeon, I. Brinkerhoff, R. Woodworth.  
Purser, H. Etting.  
Chaplain, J. Everett.  
Master, J. Ferguson, Second Master, J. M. Berrin.

Passed Midshipmen, J. F. Duncan, C. Steedman, J. W. Revere, J. W. Cook, W. T. Muse, J. L. Henderson.

Midshipmen—G. T. Sinclair, G. W. Randolph, R. N. Maffit, T. Oakes, B. F. Shattuch, W. S. Parkinson, E. C. Anderson, S. D. Trenchard, E. E. Rodgers, R. H. Jenkins, J. B. Lewis, T. S. Haggerty, J. H. Tilghman.

J. E. Dow, Schoolmaster.  
J. H. Prince, Captain's Clerk.  
Geo. C. Thomas, Purser's Clerk.  
Boatswain, W. Hart.  
Carpenter, J. A. Dickson.  
Gunner, T. Riley.  
Sailmaker, N. C. L'Hommedieu.

**VICE CONSULS OF PORTUGAL.**—The President has recognized John Vaughan, of Philadelphia, and Luis F. de Figanieri, of New York, as Vice Consuls of Portugal for those ports respectively.

**Liberality.**—The death of John Stocking, Jr. Esq., Mayor, of Mobile, was mentioned some days ago. He was a much esteemed magistrate and citizen, but died leaving a large family without property. A subscription was started for their benefit by some generous individuals, and in a short time four thousand dollars was pledged upon it, and other sums were expected.

There are now between seven and eight hundred slaves, offered by their owners, in various States of the South and West, to the American Colonization Society, for liberation and removal to Liberia, if the Society had the means of sending them. Unfortunately it has not. Cannot the benevolent and patriotic of this opulent nation furnish the means? Let the appeal be made, and we are sure they will.—[National Intelligencer.]

Captain King, of the schooner Despatch, arrived last evening from Omoa, states that a severe shock of an earthquake was felt at that place on the 25th January. An Indian village, about fifty miles from Omoa with all its inhabitants, was destroyed, with the exception of four men, who were up in the mountains. Capt. K. was one hundred miles distant at the time, and heard the report like a cannon. The ashes fell to the depth of an eighth of an inch on the deck of the schooner.

[From the New Orleans Bee, Feb. 26th.]

**FROM MEXICO.**—By dates from Mexico, the 2d instant, we have received advices of the resignation of Santa Anna of the chief magistracy of the Mexican republic. The Congress having nominally accepted his resignation, they ordered the election of President for a subsequent day; and elected General Miguel Barragan, President during the interval—through the influence of Santa Anna. By a third decree of the Congress, the office of Vice-President was declared null; so that Gomez Farias was obliged to resign.

It is not unlikely that at the election for President as decreed, Santa Anna will be elected perpetual chief magistrate, or dictator, of the fallen republic. There does not appear to be sufficient intelligence in Mexico to warrant a republican form of government. Liberty never existed where knowledge did not prevail.

## VARIETIES.

From late Foreign papers.

**Steam navigation,** by Austrian vessels, has commenced between Trieste and Constantinople, touching at Corfu, Nauplia, Smyrna, and the Dardanelles, from which latter place to the capital the voyage is completed in from 14 to 18 hours. A vessel of 120 horse power is building at Liverpool, for the enterprising house of Chalton, Whittall, and Co., British merchants at Smyrna.—[Hampshire Telegraph.]

**INTERIOR OF AFRICA.**—In a lecture delivered by Captain M'Conochie at the London University last week, he made the following observations:—"It has been ascertained that some of the nations of the interior of Africa were comparatively in a state of civilization, and that the Governments under which they existed were stable.—Lines of investigation had, by the expeditions of various travellers, been marked out on the tract now sought to be more fully explored, from the east, the west, and the south; it was an expansion of those lines that was required; it was breadth in the future researches that must be given to those lines, and the angles contained between them must be filled up. The continent of Africa had already been penetrated 1400 miles north from the Cape of Good Hope. The countries farther north were found to be the furthest advanced in the art of civilized life. At the distance of 1400 miles from the Cape the arts of smelting iron and copper, and of carving in ivory, were known. Commerce had penetrated in that direction nearly 1400 miles, and a trade to the amount of £1600 had been carried on in one expedition, though under the disadvantages of the commodities of the trading having been conveyed in wagons, and not by water."

**CIVILIZATION AND CHAMPIONSHIP OF ENGLAND.**—The discussions respecting this pugilistic dignity have been lately revived in the sporting circles. Some time ago Ward, the present nominal possessor, was challenged by a well known character, Deaf Burke, to sustain his pretensions to the honor. An offer was made to stake £200, besides the right to the title on the issue of the contest, and Ward at first consented; but afterwards refused to enter the lists unless the sum were raised to £300, and on that being agreed to, unless it were made £500—a sum which Burke was unable to collect. This conduct of Ward was by some considered capricious, and by others pusillanimous; so that at a late meeting upon the subject, a resolution was unanimously carried to the effect that the *maximum* stake in such a contest should be £200, and that if Jem Ward refused to come forward on these terms, Burke should assume the title of Champion of England.—[London paper.]

**NATURAL HISTORY.**—In a paper read before the Academy of Science at Paris, by M. F. Cuvier, on the growth of feathers, hair, and the quill of the porcupine, among a variety of curious information it was remarked that the hair of certain animals, though not, as has been supposed, a part of the skin, has a very acute sense of touch, as in the cat; for it was observed, if the smallest particle of dust fall on the fur of this animal, it is immediately sensible of it, and endeavors to shake it off.

**PRINCESS DE CHIMAY.**—The Princess de Chimay, formerly Madame Tallien, so celebrated for her beauty, and the part she played during the first French revolution, died on the 15th of January at her chateau at Chimay. She was born in Spain, and the daughter of M. Gabarus, who was twice Minister of the Finances of that country. Before the Revolution she had married M. de Fontenay, a Councillor in the Rouen Parliament. In 1789, she enthusiastically embraced the prevalent Revolutionary opinions.—On passing through Bordeaux, subsequently to the memorable 10th of August, she was arrested, but the celebrated Member of the Convention, Tallien, being in that city, she captivated him by her beauty, and through his interposition was released. On returning to Paris, she was again thrown into prison, and only restored to liberty in 1794. It was then she became known under the name of Madame Tallien, and acquired that fame which she long retained. On Tallien's



departure for Egypt, Madame Tallien remained in Paris, where she was surrounded with worshippers. Among them was Barras, Member of the Directory, through whose credit, it must ever be said to her honor, she nobly rendered innumerable service to the victims of the Revolution, by whom she was gratefully called *Notre Dame de bon Secours*. She was often a rival of Josephine Bonaparte, but never could obtain the slightest access to Napoleon's good grace. When Tallien returned, she refused to receive him, and declared that all ties with him were severed. In 1805 she married M. de Caraman, who in 1815, assumed the title of Prince de Chimay.

The bourgeoisie, and substantial citizens generally, begin to complain of the exclusiveness of Louis Philippe's entertainments. At first the Citizen King! used to make his invitations very general; but lately at a grand concert at the palace, none but nobles, and now and then a few deputies, were to be seen.

The Tribune was again seized and suppressed for the 107th time, on 5th February—not as was said for a biographical article on M. Argout, but for certain statements relative to an alleged arrangement made by Gen. Bernard in New York, on the subject of the 25 million indemnity.

Music makes its nobles we find; for Bellini, for his new opera of the *Puritani* has received the decoration of the *legion of Honor*.

MEYER-BEER, has recently been elected a foreign associate of the *Academie des Beaux Arts* and the King had approved the choice.

We have before us, says a Paris paper, the *Royal Almanac* of Spain for 1835, and find in the list of the *Grand Crosses* of the order of *Isabella the Catholic*, the name of M. Rothchild. This dignity confers on whoever is invested with it, the title of *Most Excellent*. Hitherto M. Rothchild has been very silent in Paris about this new favor from Maria Christina—a favor conferred upon the eve of his paying several millions. At any rate, the admission of an *Israelitish* capitalist into the *Catholic* order of *Isabella*, is a proof of the progress of ideas in Spain, and especially of the irresistible progress of the power of money, over the most inveterate prejudices in the habits of a nation.

The following statement characterizes at once the horrors of the civil war in Spain, and the virtues which such scenes sometimes call into play:

Lately, near Hernani, a Carlist party captured about forty persons, men and women, who were going to St. Sebastian with provisions. In conformity with the orders of Don Carlos they should all have been shot, but the Chief who took them, contented himself with ordering the execution of seven only out of the party. Four men and three women were designated by lot. One of the women had three children at home. She obtained permission, before dying, to see her family, which was near by. After a brief interview with them, her husband, deeming that she, better than himself could provide for their children, offered to take her place as the victim, was accepted, and with the other six—shot!

MR. CORBETT'S ACCOUNT OF HIS ELECTION.—The election over in an hour and three quarters in the whole! And anything so well, so sensibly, so every way nicely conducted, I never saw before. The returning officer, James Lees, Esq. just as polite and amiable looking a young man as can be imagined. Mr. Fielden was proposed by Mr. Joshua Milne, and seconded by Mr. John Travers. I was proposed by Mr. Alexander Taylor, and seconded by Mr. Hague. Here was sense. We had no placards; we had no address; we asked no man for a vote; we did not ask the collective body. We had nothing of expense of any sort even for our own personal entertainment. Here was no nonsense; no flattery; no coaxing; no

bombast; nor was there any nonsense about "stopping the supplies." "We told our constituents that it was their duty to feel grateful to the King for what he had done; and that it would be our duty to take care to avoid every thing tending to thwart his servants, if they appeared to be disposed to act in conformity to the good of his people; and that nothing, we are resolved, should induce us to give our countenance to any factious proceeding, having for its object to lessen the constitutional weight and authority of the King or of the Lords. In all which we had the hearty concurrence of our constituents."—[Political Register.]

NEVER DESPAIR.—A recent London paper gives this account of a whole crew saved by the energy and example of the commander.

In the Mangles from China came passenger Capt. Theaker, of the late ship *Earl of Eldon*, which was destroyed at sea, by her cargo of cotton igniting, when on her passage from Bombay. The Captain's conduct affords a striking proof of what may be effected under the most distressing privations and difficulties, by skill and self-possession. In the midst of the Indian Ocean, he safely conducted the crew and passengers, amounting in number to forty-five persons, in two boats (one a long boat about 22 feet by 7 feet, loaded to the water's edge with thirty-five persons, bread, water, provisions, chart, compass, &c., the other, a jolly-boat, containing 10 persons,) across a space of the Indian Ocean of nearly 1,050 miles, weathering two storms, and in 13 days carried them into port (Port Louis) without the loss of a single life, or any real extremity of suffering beyond that inseparable from their situation.

ORIGIN OF THE WORD QUIZ.—Very few words ever took such a run, or was saddled with so many meanings, as this monosyllable; and, however strange the word, 'tis still more strange that not one of our lexicographers, from Bayley to Johnson, ever attempted an explanation, or gave a derivation of it. The reason is very obvious. It is because it has no meaning, nor is it derived from any language in the world ever known from the Babylonish confusion to this day. When Richard Daly was patentee of the Irish theatres he spent the evening of a Saturday in company with many of the wits and men of fashion of the day: gambling was introduced, when the manager staked a large sum that he would have spoken, all through the principal streets of Dublin, by a certain hour next day, Sunday, a word having no meaning, and being derived from no known language—wagers were laid, and stakes deposited. Daly repaired to the theatre, and dispatched all the servants and supernumeraries with the word "Quiz," which they chalked on every door and every shop window in town.—Shops being shut all next day, every body going to and coming from their different places of worship saw the word, and every body repeated it, so that "Quiz" was heard all through Dublin; the circumstance of so strange a word being on every door and window caused much surprise, and ever since, should a strange story be attempted to be passed current, it draws forth the expression—you are quizzing me.

EXTRAORDINARY SUICIDE IN FRANCE.—A dashing young man, who frequented the best society, conceived the design of committing suicide, which he executed in the following singular manner, a few evenings since:—After having arranged himself in full dress as for an assembly, he lighted six tapers, and placed them in order round his bed, and near the latter was a pan of charcoal. The deluded man gaily said to his neighbors, that he was about to take a long voyage, and immediately entered his room, which he was to leave no more alive. The fatal charcoal was ignited, and, in two hours he was found lifeless.—[Galignani.]

#### PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory. Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use. Ship and Boat Spikes made full size under the head, so as not to admit water. Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13-1y

#### RAILWAY IRON.

95 tons of 1 inch by 1 inch, Flat Bars in lengths of 14 to 18 feet, counter sunk holes, end cut at an angle of 45 degrees, with splicing plates and nails to suit. soon expected. 4250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins. Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels. Axles of 24, 28, 30, 32, 34, and 36 inches diameter for Railway Cars and Locomotives of patent iron. The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON. 9 South Front street, Philadelphia. Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them. d71m-ovr

#### PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to. HENRY BURDEN, Agent. Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

F. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes. 112sam H. BURDEN.

#### SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes. WM. J. YOUNG.

Mathematical Instrument Maker, No. 9 Dock st., Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested. Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend, JAMES F. STABLER, Supt of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad. Germant. and Norrist. Railroad



## METEOROLOGICAL RECORD,

Kept at Avoylle Ferry, Red River, Lou.—(Lat. 31.10 N., Long. 91.59 W., nearly.)

FOR THE MONTH OF DECEMBER, 1834.

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
1834.	Morn.	Noon.	Night.		
Dec. 1	58	75	68	SE	Cloudy—rain in the evening
" 2	61	66	61	calm	clear—at noon U. S. snag-boats went up Red River to clear out the
" 3	44	67	44	N	.. [raft—three steam and four keel boats.
" 4	32	64	48	calm	cloudy—white frost, and rain in the morning—Red River rising
" 5	53	61	60	sw	.. —heavy rain all day
" 6	43	64	60	calm	clear all day
" 7	44	66	64	"	cloudy—rain in the evening
" 8	38	47	45	NW	.. —white frost—clear in the evening
" 9	39	48	45	N	.. all day
" 10	41	42	43	NE	.. —hail in the morning—rain at noon—clear in the evening
" 11	37	59	56	calm	clear—light white frost
" 12	38	61	56	"	..
" 13	32	61	56	"	.. —heavy white frost and cloudy in the evening
" 14	56	70	60	"	.. all day
" 15	36	70	63	"	.. —light white frost
" 16	43	72	79	"	.. all day
" 17	57	59	57	"	cloudy—rain in the morning and all day
" 18	54	65	61	"	.. —clear at noon—Red River rising
" 19	50	58	60	"	.. —rain morning and noon—cloudy evening
" 20	52	54	42	"	.. —rain all day
" 21	48	52	51	"	.. —foggy morning—rain noon and night
" 22	51	56	54	"	.. —rain all day
" 23	52	57	58	"	..
" 24	58	72	67	"	.. —thunder before day—rain at noon—clear evening
" 25	56	70	58	"	.. all day
" 26	41	50	48	"	clear all day
" 27	31	64	55	"	.. —heavy white frost
" 28	51	65	59	NW	.. all day—Red River on a stand
" 29	38	65	61	calm	.. —white frost
" 30	44	62	60	NW	.. all day
" 31	34	59	54	calm	.. —heavy white frost

Red River rose this month, 21 feet 1 inch.

Below high water, 8 feet 10 inches.

PRICES OF RAILROAD STOCKS,  
At the New-York Stock and Exchange Board,  
MARCH 20, 1835.

	Par.	Ask.	Offer.
Mohawk and Hudson.....	100	118	—
Pateron.....	50	105	104½
Saratoga.....	—	106	105½
Harlem.....	—	91½	91
Boston and Providence....	100	116	114
New-Jersey Railroad and Transportation Line....	100	—	—
Camden and Amboy.....	100	—	—
Providence and Stonington..	100	—	—
Boston and Worcester.....	—	106	105
Philadelphia and Trenton..	100	98	98
Utica and Schenectady....	100	120½	120

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AMERICAN MONTHLY MAGAZINE,  
RAILROAD AND CANAL MAP,  
QUARTERLY JOURNAL OF AGRICULTURE,  
MECHANICS, AND INTERNAL IM-  
PROVEMENTS,  
PUBLIC DOCUMENTS,  
EULOGY ON LA FAYETTE.

**RAILROAD AND CANAL MAP.**  
THIS long promised Map is now ready for those who wish it. Its size is 94 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 35 cents, to any part of the country.

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D. K. MINOR.SUPERIOR  
GARDEN AND AGRICULTURAL SEEDS.

The Subscriber has now on hand a full supply of Garden and Field Seeds, growth of 1834; among which are all the finest cabbages, cauliflower, brocolie, radishes, peas, &c., that are cultivated in England, France, and Holland, together with every sort that can be raised to advantage in our own country, and which are grown expressly for my use from stock furnished and raised by the most experienced gardeners in this country; in short, every article emanating from my store I warrant genuine and fresh.

Also, skinless oats, potatoe oats, 44 lb. weight to the bushel, perennial rye grass, white clover, lucerne or French clover, orchard grass, Herd's grass, white mulberry, and yellow locust seeds, spring tares or vetches, genuine mangel wutzel, and ruta baga, and field turnip, seeds well worth the attention of farmers.

Canary, Hemp, Rape and other bird seeds; wholesale dealers supplied on accommodating terms. Price lists by the pound and bushel furnished on application, as also catalogues of whole collection.

The flower seed department embraces the choicest variety to be found in this country, in which are included choice double Dahlia seed, carnation and choice Pinks, German and China Astere, splendid double balsams, with an addition of several new varieties, accompanied with a printed direction for culture and management.

Orders will be punctually attended to and carefully packed and forwarded as directed, but as the collection of distant debts are often troublesome and sometimes impracticable, it is desired that satisfactory reference be made to persons in Albany, when the order is not accompanied with the money.

W. THORBURN,  
347 N. Market st. (opposite Post Office.)

Mr. Thorburn is also Agent, and will at all times receive subscriptions, for the NEW-YORK FARMER and American Gardener's Magazine; QUARTERLY JOURNAL of Agriculture, Mechanics, and Manufactures; MECHANICS' MAGAZINE and Register of Inventions and Improvements; and the AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; published at No. 35 Wall street, N. Y., by D. K. MINOR.

## AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:  
The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance.  
The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.

The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland Monroe county, will be promptly attended to. September 19, 1834.

D. K. MINOR.

## RAILROAD CASTINGS.

MANY & WARD, Proprietors of the Albany Eagle Air Furnace and Machine Shop, will make to order car wheels, chairs and knees, and every other description of castings required for railroads.

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## SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street,  
corner of Maiden lane.

J31 6t

## STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad,

No. 264 Elizabeth street, near Bleecker street,  
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation.

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RAILROAD CAR WHEELS AND BOXES,  
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Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM &amp; GROSVENOR.

## NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for shins. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.

August 15, 1833.

A29t f RM&amp;F

## MILL DAM FOUNDRY FOR SALE,

The Proprietors of the Mill Dam Foundry offer for sale or lease their well known establishment, situated one mile from Boston. The improvements consist of

No. 1. Boiler House, 50 feet by 30 feet, containing all the necessary machinery for making boilers for Locomotives and other steam Engines.

No. 2. Blacksmith's Shop, 50 feet by 20, fitted with cranes for heavy work.

No. 3. Locomotive House, 54 feet by 25, used for putting together Locomotive Engines. Several of the best Engines in use in the United States have been put in this establishment.

No. 4. A three story brick building, covered with slate, 130 feet by 46, containing two water-wheels, equal to 40 horse power; Machine Shop, filled with lathes, &c.; Pattern Shop; Rolling Mill and Furnaces, capable of rolling 4 tons of iron per diem, exclusive of other work; three Trip Hammers, one of which is very large; Engine for blowing Cupola Furnaces, moved by water-wheel; one very superior 14 horse Steam Engine, which could be dispensed with; and a variety of other machinery.

No. 5. An Iron Foundry, 80 feet by 45, with a superior air Furnace and two Cupolas, Core oven, Cranes, &c. fitted for the largest work. Attached to the Foundry is a large ware-house, containing Patterns for the Castings of Hydraulic Presses, Locomotive and other Steam Engines, Lead Mill Rolls, Gearing, Shafts, Groves, Grates, &c. &c. These were made of the most durable materials, under the direction of a very scientific and practical Engineer, and are supposed to be of great value.

No. 6. A building, 65 feet by 36, containing a large stack of chimneys, and furnaces, for making Cast Steel. This building is at present used as a boarding-house, and can accommodate a large number of men.

No. 7. A range of buildings, 200 feet long by 36, containing counting room, several store rooms, a Brass Foundry, room for cleaning castings, a large loft for storing patterns, stable for two horses, &c. &c.

The above establishment being on tide water, presents greater advantages for some kinds of business than any other in the United States. Coal and Iron can be carried from vessels in the harbors of Boston, to the wharf in front of the Factory, at 25 to 30 cents per ton. Some of the largest jobs of iron work have been completed at this establishment; among others, the great chain and lift pumps for freeing the Dry Dock at the Navy Yard and Charleston.

The situation for Railroad work is excellent, being in the angle formed by the crossing of the Providence and Worcester Railroads. The Locomotive "Yankee," now running on the latter road, and the "Jonathan," purchased by the State of Pennsylvania, were built at these works. With the Patterns and Machinery now in the premises, 12 Locomotives and as many tenders, besides a great quantity of cars and wagons, could be made per annum.

For terms, apply to

THOMAS ECKLEY, Treasr., &c., Boston, or to  
ROBERT RALSTON, Jr., Philadelphia.  
Boston, Dec. 20, 1834.